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ANNUAL REPORT

for the Year

1959

G. A. FRANZ, JR.
Deputy Commissioner of Mines

Publication Approved by E. G. Spurlin, State Controller

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24

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Letter of Transmittal

May 1st, 1960

Honorable Steve McNichols
Governor of Colorado
State Capitol Building
Denver 2, Colorado

Dear Governor McNichols:

In compliance with the requirements of Chapter 92, Article 32, Section 11, of the Colorado Revised Statutes 1953, I have the honor to transmit herewith the Report of the State Bureau of Mines for the year 1959.

Respectfully submitted,

G. A. Franz, Jr.

Deputy Commissioner of Mines

Personnel

G. A. Franz, Jr., Deputy Commissioner	Lakewood
Norman R. Blake, Inspector, District No. 1	Black Hawk
Fred E. Theobald, Inspector, District No. 2	Canon City
John W. Doyle, Inspector, District No. 3	Leadville
Elzie D. Ray, Inspector, District No. 4	Montrose
Joseph L. Keating, Deputy Inspector	Leadville
John H. Pakka, Deputy Inspector	Telluride
Richard C. Groom, Minerals (To 7-1-59)	Denver
Margaret G. Lawrence, Principal Clerk	Denver
Thelma L. MacManus, Account Clerk	Denver
Naomi S. Jones, Clerk Stenographer	Denver
Agnes K. Brennan, Clerk Typist	Denver

Commissioners of Mines

Harry A. Lee	May 11, 1895-May 10, 1903
E. L. White	May 10, 1903-May 10, 1907
T. J. Dalzell	May 10, 1907-May 10, 1911
T. R. Henahen	May 10, 1911-May 10, 1915
Fred Carroll	May 10, 1915-May 10, 1919
Horace F. Lunt	June 1, 1919-June 1, 1923
John T. Joyce	June 1, 1923-June 12, 1939
Edward P. Arthur	June 12, 1939-August 26, 1943
Fred Jones	September 27, 1943-April 25, 1950
Walter E. Scott, Jr.	May 3, 1950-May 31, 1959

Director of Natural Resources

Dr. Edward L. Clark	October 15, 1959

Deputy Commissioner of Mines

G. A. Franz, Jr.

Districts of Inspection

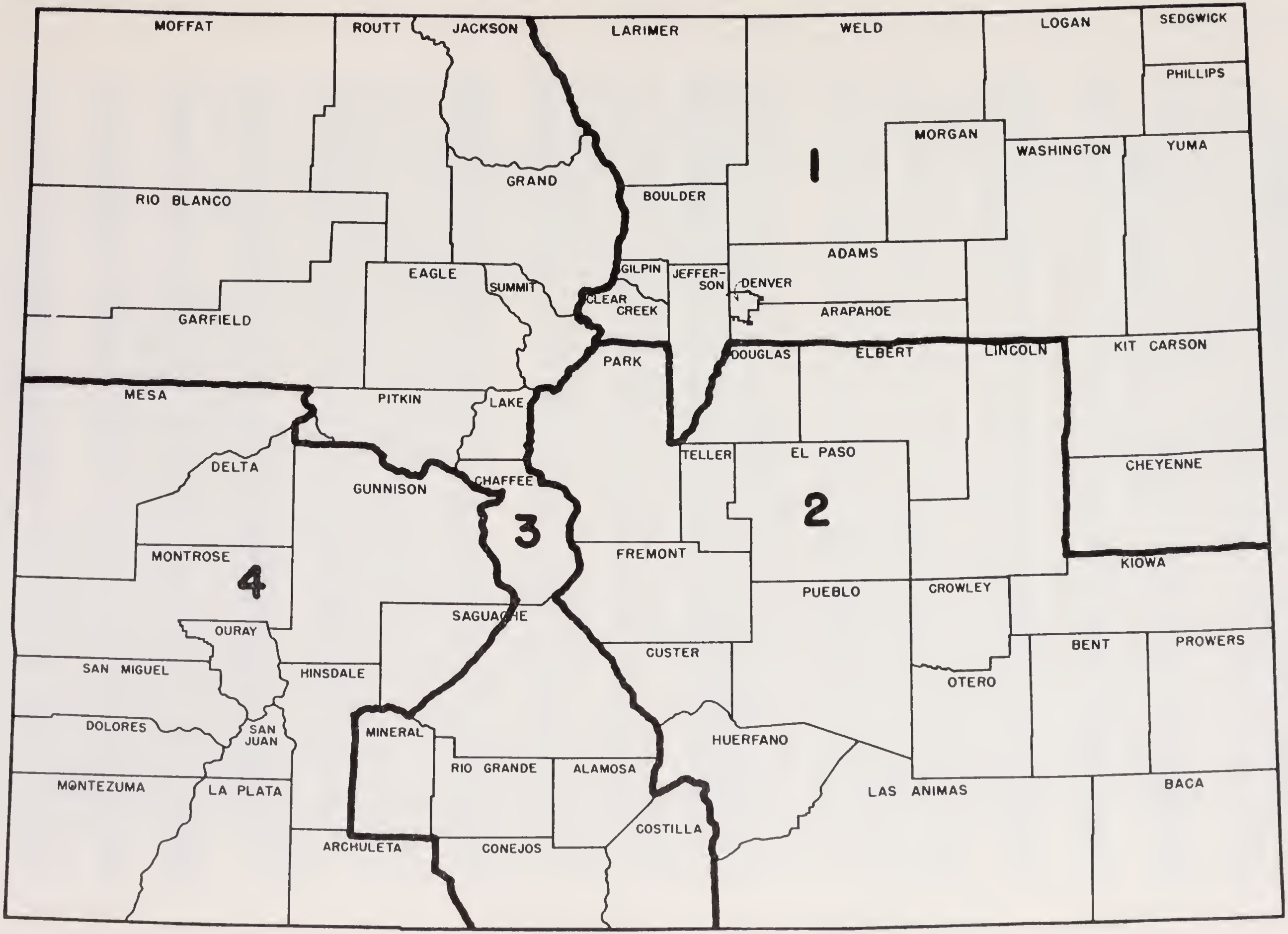
DISTRICT NO. 1, all of the following counties: Adams, Arapahoe, Boulder, Cheyenne, Clear Creek, Denver, Gilpin, Jefferson, Kit Carson, Larimer, Logan, Morgan, Phillips, Sedgwick, Washington, Weld and Yuma.

DISTRICT NO. 2, all of the following counties: Baca, Bent, Crowley, Custer, Douglas, Elbert, El Paso, Fremont, Huerfano, Kiowa, Las Animas, Lincoln, Otero, Park, Prowers, Pueblo, and Teller.

DISTRICT NO. 3, all of the following counties: Alamosa, Chaffee, Conejos, Costilla, Eagle, Garfield, Grand, Jackson, Lake, Mineral, Moffat, Pitkin, Rio Blanco, Rio Grande, Routt, Summit, and that part of Gunnison County in the extreme northwest corner and lying north of the 39th degree of latitude, and that part of Saguache County lying south and east of the Continental Divide.

DISTRICT NO. 4, all of the following counties: Archuleta, Delta, Dolores, Hinsdale, La Plata, Mesa, Montezuma, Montrose, Ouray, San Juan, San Miguel and Gunnison County, except the extreme northwest corner lying north of the 39th degree of latitude and that part of Saguache County lying north and west of the Continental Divide.

MAP SHOWING DISTRICTS OF INSPECTION



Publications of the Bureau of Mines

BULLETINS

Bulletin No. 1, Recommendations for Safety Appliance in Mining, Harry A. Lee, Commissioner of Mines, 1896.

Bulletin No. 2, Precious Metal Production for the Year 1898, Harry A. Lee, Commissioner of Mines, 1899.

Bulletin No. 3, Mining Laws, Relative to Bureau of Mines Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1899.

Bulletin No. 4, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1901.

Bulletin No. 5, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1902.

Bulletin No. 6, Regulations Relative to the Construction, Equipment and Operation of Metalliferous Mines, Mills and Metallurgical Plants, Recommendations and Mineral Production for 1905, E. L. White, Commissioner of Mines, 1906.

Bulletin No. 7, Federal and State Laws Relating to Mining, Fred Carroll, Commissioner of Mines, 1916.

Supplement to Bulletin No. 7, Mining Laws Enacted by the Twenty-First General Assembly, Fred Carroll, Commissioner of Mines, 1917.

Supplement No. 2 to Bulletin No. 7, Amendments to the Mining Laws Enacted by the Twenty-Second General Assembly, Horace F. Lunt, Commissioner of Mines, 1919.

Supplement No. 3 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-Third General Assembly, Horace F. Lunt, Commissioner of Mines, 1921.

Supplement No. 4 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-Fourth General Assembly, Horace F. Lunt, Commissioner of Mines, 1923.

Bulletin No. 8, The Oil Shales of Northwestern Colorado, Horace F. Lunt, Commissioner of Mines, 1919.

Bulletin No. 9, Mine Safety Standards, Horace F. Lunt, Commissioner of Mines, 1920.

Bulletin No. 11, Federal and State Laws Relating to Mining, John T. Joyce, Commissioner of Mines, 1931.

Bulletin No. 12, Mining Laws of Colorado, Edward P. Arthur, Commissioner of Mines, 1942.

Bulletin No. 13, Mining Laws of Colorado, Fred Jones, Commissioner of Mines, 1946.

Bulletin No. 14, Mining Laws of Colorado, Fred Jones, Commissioner of Mines, 1949.

Bulletin No. 15, Oil Well Safety Laws, Walter E. Scott, Jr., Commissioner of Mines, 1953.

Circular No. 1, Location of Lode and Placer Mining Claims, Walter E. Scott, Jr., Commissioner of Mines, 1953.

Bulletin No. 16, Colorado Mining Laws with Rules and Regulations, Walter E. Scott, Jr., Commissioner of Mines, 1954.

Circular No. 1, Revised, Location of Lode and Placer Mining Claims, Walter E. Scott, Jr., Commissioner of Mines, 1957.

Bulletin No. 17, Safety Rules and Regulations (Condensed), G. A. Franz, Jr., Deputy Commissioner of Mines, 1959.

REPORTS

Report of Bureau of Mines, Colorado, from its establishment in May, 1895, to November 30, 1896, Harry A. Lee, Commissioner of Mines, 1896.

Report for the Year 1897, Harry A. Lee, Commissioner of Mines, 1898.

Report for the Year 1898, Harry A. Lee, Commissioner of Mines, 1899.

Biennial Report for the Years 1899-1900, Harry A. Lee, Commissioner of Mines, 1900.

Biennial Report for the Years 1901-1902, Harry A. Lee, Commissioner of Mines, 1903.

Biennial Report for the Years 1903-1904, E. L. White, Commissioner of Mines, 1905.

Biennial Report for the Years 1905-1906, E. L. White, Commissioner of Mines, 1907.

Biennial Report for the Years 1907-1908, T. J. Dalzell, Commissioner of Mines, 1909.

Biennial Report for the Years 1909-1910, T. J. Dalzell, Commissioner of Mines, 1911.

Biennial Report for the Years 1911-1912, T. R. Henahen, Commissioner of Mines, 1913.

Biennial Report for the Years 1913-1914, T. R. Henahen, Commissioner of Mines, 1914.

Biennial Report for the Years 1915-1916, Fred Carroll, Commissioner of Mines, 1916.

Biennial Report for the Years 1917-1918, Fred Carroll, Commissioner of Mines, 1919.

Annual Report for the Year 1919, Horace F. Lunt, Commissioner of Mines, 1920.

Annual Report for the Year 1920, Horace F. Lunt, Commissioner of Mines, 1921.

Annual Report for the Year 1921, Horace F. Lunt, Commissioner of Mines, 1922.

Annual Report for the Year 1922, Horace F. Lunt, Commissioner of Mines, 1923.

Annual Report for the Year 1923, John T. Joyce, Commissioner of Mines, 1924.

Annual Report for the Year 1924, John T. Joyce, Commissioner of Mines, 1925.

Annual Report for the Year 1925 was fully prepared but, because of lack of funds, was not printed. The manuscript is on file in the office of the State Bureau of Mines.

Annual Report for the Year 1926, John T. Joyce, Commissioner of Mines, 1927.

Annual Report for the Year 1927, John T. Joyce, Commissioner of Mines, 1928.

Annual Report for the Year 1928, John T. Joyce, Commissioner of Mines, 1929.

Annual Report for the Year 1929, John T. Joyce, Commissioner of Mines, 1930.

Annual Report for the Year 1930, John T. Joyce, Commissioner of Mines, 1931.

Annual Report for the Year 1931, John T. Joyce, Commissioner of Mines, 1932.

Annual Report for the Year 1932, John T. Joyce, Commissioner of Mines, 1933.

Annual Report for the Year 1933, John T. Joyce, Commissioner of Mines, 1934.

Annual Report for the Year 1934, John T. Joyce, Commissioner of Mines, 1935.

Annual Report for the Year 1935, John T. Joyce, Commissioner of Mines, 1936.

Owing to lack of funds the 1936 Annual Report of the State Bureau of Mines was not published.

Annual Report for the Year 1937, John T. Joyce, Commissioner of Mines, 1938.

Owing to lack of funds the 1938 Annual Report of the State Bureau of Mines was not published.

Annual Report for the Year 1939, Edward P. Arthur, Commissioner of Mines, 1940.

Owing to lack of funds the 1940 Annual Report of the State Bureau of Mines was not published.

Annual Report for the Year 1941, Edward P. Arthur, Commissioner of Mines, 1942.

Annual Report for the Years 1942 and 1943, Fred Jones, Commissioner of Mines, 1944.

List of Mines for the Year 1944, Fred Jones, Commissioner of Mines, 1945.

List of Mines for the Year 1945, Fred Jones, Commissioner of Mines, 1946.

Annual Report for the Year 1946, Fred Jones, Commissioner of Mines, 1947.

Annual Report for the Year 1947, Fred Jones, Commissioner of Mines, 1948.

Annual Report for 1948 was not published.

Annual Report for the Year 1949, Walter E. Scott, Jr., Commissioner of Mines, 1950.

Annual Report for the Years 1950 and 1951, Walter E. Scott, Jr., Commissioner of Mines, 1952.

Annual Report for the Year 1952, Walter E. Scott, Jr., Commissioner of Mines, 1953.

Annual Report for the Year 1953, Walter E. Scott, Jr., Commissioner of Mines, 1954.

Annual Report for the Year 1954, Walter E. Scott, Jr., Commissioner of Mines, 1955.

Annual Report for the Year 1955, Walter E. Scott, Jr., Commissioner of Mines, 1956.

Annual Report for the Year 1956, Walter E. Scott, Jr., Commissioner of Mines, 1957.

Annual Report for the Year 1957, Walter E .Scott, Jr., Commissioner of Mines, 1958.

Annual Report for the Year 1958, Walter E. Scott, Jr., Commissioner of Mines, 1959.

Annual Report for the Year 1959, G. A. Franz, Jr., Deputy Commissioner of Mines, 1960.

Foreword

Enactment of House Bill No. 83 by the Forty-Second General Assembly made a change in the sixty-four year old staffing pattern of the Bureau of Mines. Since 1895, and up to June 1, 1959, the Bureau has been under the direction of the Commissioner of Mines, whose office was authorized by Article 16, Section 1, of the State Constitution in 1876. House Bill 83 provided that effective June 1, 1959, the Governor would appoint a Commissioner of Mines who would become the Director of Natural Resources. The Bill further provided that the Commissioner, or Director, would appoint a Deputy Commissioner of Mines who would assume all of the duties and responsibilities of the former commissioner with respect to the Bureau of Mines and under the direction of the Commissioner, or Director of Natural Resources.

In compliance with this Act, Dr. Edward L. Clark was appointed our first Director of Natural Resources and G. A. Franz, Jr., was appointed Deputy Commissioner of Mines.

Another important change affecting the Bureau of Mines in 1959 was the enactment of Senate Bill 138 which provided that the huge mineral collection located on the second floor of the Museum Building be transferred from the custody of the Bureau of Mines to the State Historical Society. This Bill became effective July 1, 1959, and in compliance with the Act the transfer was made on the proposed date. This mineral collection is reputed to be one of the most complete in the United States. Mineral specimens from every area in the State and from practically all mining properties in the State as well as minerals from all parts of the United States and foreign countries are exhibited. The collection is viewed by thousands of students, engineers, geologists, rock collectors, and the general public each year. Additions to this collection have been made through the efforts of the Bureau of Mines each year since its inception in 1895. It is sincerely hoped that this collection will remain intact and that valuable additions will continue to be made.

One of the more important functions of the Bureau of Mines is to enforce the mining safety laws of the State and to make periodical inspections of all operating mines, mills, pits, quarries, tunnels, projects, highway projects, oil wells, and other excavations of a public or quasi-public nature, except coal mines. This function is accomplished by four District Inspectors and two Deputy Inspectors under the direction of the Deputy Commissioner. Inspections are made of every property at least once each year and as many more times as necessity requires and time permits. A written report with recommendations for the operator is made upon completion of each inspection with copies for the operator, inspector and the Bureau of Mines.

In the interest of more complete mine safety education in the industry, several additions and changes have been made this year along the lines of operator education and inspection procedures and reports. Our mine inspection reports have been changed to allow a more detailed statement to be made to the operators regarding law and safety rule infractions with recommendations. This new universal report also eliminated the use of separate blanks for each type of inspection and saves considerable time for both the operator and the inspector. Our operators accident report blank has been changed to conform with the Industrial Commission blank so that it can be completed in one operation by the employer. This will eliminate the processing of an extra set of blanks by the operator and enable us to secure this vital information weeks earlier.

Bulletin 17 (condensed safety rules) was printed and distributed to the personnel of the mining industry. This bulletin is pocket size and explains the more important safety rules as well as the Bureau of Mines requirements along the lines of operational data and safety requirements.

All inspection, information, accident investigation, and operation reports submitted to the Bureau by the inspectors are processed in the Denver office and these reports are catalogued and filed in our public file and can be seen by the interested public. All operators annual reports are likewise processed and filed for public information. Data from these reports are compiled and the information which is assembled is used in the compilation of our Annual Report. This material also supplies vital information on mining activity, production, accident statistics, and many other items of interest to the State and industry. This information, along with the informative contents of our active library of Bureau of Mines and United States Geological Survey papers and pamphlets, is courteously given out to interested parties by our office personnel. In addition to this service, several hundred miniature mineral collections are mailed out to students and interested rock collectors each year.

In addition to the regular inspection work, our Inspectors and the Department train many employees and management personnel in the standard United States Bureau of Mines first aid course each year. Our Inspection Department also makes many dust and ventilation surveys for the operators each year and gives mine safety instructions freely upon request.

Every effort has been made to assure accuracy and completeness of the data used in this report. However, because of the fact that this report is printed before final production figures can possibly be secured, there will be some minor variations in the final results. It is intended to present an early resume of mining activity in Colorado for the year and to indicate the value of the mineral industry to the State and county.

Acknowledgment is gratefully given to the various State agencies, the Occupational Health Section of the Colorado Health Department, and the United States Bureau of Mines for their generous cooperation during the year.

Acknowledgment and appreciation of the services performed for the Bureau of Mines and the mining industry of Colorado in general by Walter E. Scott, Jr., is extended by the entire department. Mr. Scott retired from the office of Commissioner of Mines on June 1st, 1959. His death on July 25th, 1959, created a great loss to the mining industry.

This report has been compiled through the cooperation of the entire staff of the Bureau of Mines. Each and every member of the office personnel and inspection division is to be congratulated for his most generous contribution and help all during the year. It is the desire of all personnel of the Bureau of Mines to cooperate with the industry in every way and we earnestly solicit all inquiries, where constructive, that will tend to develop mining in Colorado.

G. A. Franz, Jr.

Minerals in 1959

Although Colorado's mineral production of $331,863,635 in 1959 indicated an increase over 1958, the total value was $23,448,491 less than the eleven-year high of 1957. Increased production was noted in uranium, sand and gravel, cement, vanadium, natural and carbonic gas, and molybdenum, while decreases occurred in petroleum, zinc, gold, copper, silver, lead, and beryllium.

Contributing factors to the increase in uranium ore production were increased plant capacities, opening and development of new deposits, and a general improvement of production and processing methods. Increased activity in the construction industry was responsible for more production of sand, gravel, clays and cement, and the increase of vanadium production naturally followed uranium as a co-product. Increased drilling activity, along with successful completions and additional wildcat activity in various parts of the State, particularly in southwestern Colorado, was responsible for the increased natural gas production. The operations at Climax, by American Metal Climax, Inc., Climax Molybdenum Division, were steady and continuous during 1959, which reflected the increase in molybdenum production over 1958. A strike in 1958 was responsible for the only break in a continuous increase in production in twenty years of Climax operation.

Decreases in petroleum production were attributed primarily to a decrease in production at Rangely Field even though increased production was indicated from new discoveries and fields in the other parts of the State. An industry-wide strike by the International Union of Mine, Mill, and Smelter Workers during the last one-third of 1959 was partly responsible for decreased gold, silver, lead, zinc, and copper production. This, coupled with low and inadequate metal prices, caused many small operators to cease operations while the larger operators held production to a minimum during this period.

The petroleum industry in Colorado continued to hold first place in Colorado's mineral production with Rangely Field in Rio Blanco County being the top producer; Morgan County was second and Washington County was third. Rangely Field, unitized in 1957, is operated by the California Company, and during 1959 water-flooding operations were started to aid and maintain maximum production from the field. Renewed activity was noted in the Florence Field in Fremont County with the completion of the first new producing well in many years. Baca, Bent, Crowley, Prowers, and other southeastern Colorado counties had considerable exploration activity with above average success. New fields were opened in northeastern Colorado and successful completions added to production in this area. Exploration and development drilling in southwestern Colorado was at an all time high and many gas and oil wells were brought into production in La Plata, Montezuma, and Dolores Counties. Wildcat activity was evident in Mesa and Delta Counties. The oil shale properties of the United States Bureau of Mines and the Union Oil Company in Garfield County were idle but maintained on a standby basis.

Metallic mineral production in Colorado in 1959 rated second to petroleum, with molybenum, uranium, and vanadium heading the list. Base and precious metal production, retarded by a low fixed price on gold and silver, and foreign competitive prices on copper, lead, and zinc, has been reduced to a minor part of the State's over-all mineral production. Idarado Mining Company, Empire Zinc Company, Golden Cycle Corporation and the Emperius Mining Company, the principal producers of these minerals, are to be commended on their steady production under these conditions. Colorado's vast supply of other metallic minerals is rapidly being developed as indicated by molybdenum, uranium, vanadium, pyrite, beryllium, and tin production.

Colorado's non-metallic industry ranks third in State mineral production with an increasing variety of products being developed each year. Minerals that were completely neglected in past years are now becoming principal products and are creating new industries for the State.

The following average yearly prices were used to calculate the production value of the following minerals:

	1959	**1958**	
Gold	$35.00	$35.00	per ounce
Silver	0.91202	0.89044	per ounce
Copper	0.31182	0.25164	per pound
Lead	0.12211	0.12109	per pound
Zinc	0.11488	0.10309	per pound
Tin	1.02053	0.95127	per pound
Molybdenum	1.250	1.215	per pound

Information in this report is gathered by Bureau of Mines Inspectors and office personnel and although the production figures cannot be accepted as final, they are as nearly accurate as possible to secure at this early date. They are intended as a preliminary indication and cannot be used for tax or other valuation purposes. Petroleum production is supplied by the Colorado Oil and Gas Conservation Commission and the dollar value is calculated by this office. All production figures are calculated by multiplying the units of production by the average yearly prices

Production of Metals, Non-Metallics, Petroleum

State Totals

	Metallics
Uranium	$ 49,404,126
Molybdenum	45,696,000
Vanadium	12,793,095
Zinc	8,269,752
Tungsten	3,365,000
Lead	3,060,881
Gold	1,921,625
Copper	1,646,937
Pyrite	1,363,290
Silver	1,077,213
Manganese	61,000
Beryl	49,881
Tin	43,400
Bog Iron	30,000
Miscellaneous (Metallic Minerals not reported separately)	1,913,000
Total Metallic Mineral Production	$130,695,200
	Non-Metallics
Cement	$ 20,405,811
Sand and Gravel	18,711,288
Fluorspar	1,462,908
Limestone	1,440,911
Clay	1,057,151
Stone	1,039,422
Feldspar	443,696
Gypsum	77,000
Pumicite, Scoria, etc.	44,046
Gemstones	41,000
Rare Earths	3,000
Miscellaneous Non-Metallics including Peat, Silica, Mica, etc.	54,717
Miscellaneous (Non-Metallic Minerals not reported separately)	855,000
Total Non-Metallic Mineral Production	$ 45,635,950
	Petroleum
Crude Oil	$136,082,156
Gas (All classes, well head value)	19,450,329
Total Petroleum Production	$155,532,485
TOTAL STATE MINERAL PRODUCTION	$331,863,635

Production for Years 1949-1958

Year	Metallic Minerals	Non-Metallic Minerals	Petroleum	Miscellaneous	Total
1949	$ 39,480,267	$ 4,874,598		$ 174,919	$ 44,529,784
1950	42,950.618	3,930,578		668,700	47,549,896
1951	62,645,640	4,823,869		667,050	68,136,559
1952	115,944,105	12,681,789	$ 80,563,705	1,094,950	210,284,549
1953	137,661,759	14,027,866	97,287,265	1,103,750	250,080,640
1954	190,551,170	22,837,321	122,734,960	1,090,000	337,213,451
1955	193,677,192	33,481,754	153,488,985	1,060,000	381,707,931
1956	202,309,415	35,205,615	166,867,778	1,648,715	406,031,523
1957	133,561,376	38,006,491	182,397,816	1,346,443	355,312,126
1958	109,116,318	41.569,450	162,171,419	1,092,923	313,950,110
Totals	$1,227,897,860	$211,439,331	$965,511,928	$ 9,947,450	$2,414,796,569

Note: Prior to 1957 uranium and vanadium values were included with metallic minerals, using the value of the industry to the State and not the calculated value of U_3O_8 per pound.

County Activity and Production

ADAMS (1) *BRIGHTON

Area 1,250 square miles
5 mills, projects, oil wells—102 men

Petroleum activity was steady in Adams County during 1959 with production about average for the last few years. Production from the Cooley Sand & Gravel Company, Inland Sand & Gravel Company, and Brannan Sand & Gravel Company indicated some increase in the gold recovery from some of these plants and added to the State's precious metal output.

Gold	$ 13,256
Sand and Gravel	1,016,760
Stone	3,000
Total	$ 1,019,760
Petroleum	1,982,160
Gas	178,444
Total	$ 2,160,604
TOTAL PRODUCTION FOR COUNTY	$ 3,193,620

ARCHULETA (4) *PAGOSA SPRINGS

Area 1,364 square miles
Projects, gravel plants, oil wells—115 men

Gramps Oil Field, located in the original Terra Amarilla land grant and owned by the Hughes Estate of Denver, was operated by the Oriental Oil Company for the Flank Oil Company of Billings, Montana. Several new wells were completed and some wells were abandoned during the year. Petroleum production was steady in 1959 with some of the county production coming from independent operators. Wildcat activity was evident with a normal amount of successful completions.

Sand and Gravel	$ 272,581
Petroleum	333,806
Gas	52
Total	$ 333,858
TOTAL PRODUCTION FOR COUNTY	$ 606,439

---

*County seats

BACA (2) *SPRINGFIELD

Area 2,565 square miles
Mines, projects, gravel plants, oil wells—62 men

Garrizo Enterprises continued development work on their copper property and mill located in southwest Baca County until September of this year. Their mining operations were changed from underground work to stripping operations for the removal of overburden from their copper deposit. Some renewed interest in petroleum activity was evident with the drilling of several new wells in the western part of the county. To this date, gas has been the predominant petroleum product.

Sand and Gravel	$	8,028
Gas	$	43,943
TOTAL PRODUCTION FOR COUNTY	$	51,971

BENT (2) *LAS ANIMAS

Area 1,543 square miles
Gravel plants, oil wells—40 men

A new oil discovery by the Frankfort Oil Company, thirteen miles northwest of Lamar, Colorado, in the northeast corner of Bent County, has created considerable additional interest in southeastern Colorado oil activity. With continual new discoveries, petroleum production in Bent County no doubt will increase. Sand and gravel added to the county's mineral production.

Sand and Gravel	$	52,511
Petroleum		1,837
Gas		958
Total	$	2,795
TOTAL PRODUCTION FOR COUNTY	$	55,306

BOULDER (1) *BOULDER

Area 758 square miles
15 mines, mills, quarries, projects, placers, oil wells—237 men

The Burlington Mine, located above Jamestown and operated by the General Chemical Division of the Allied Chemical & Dye Corporation, has been on steady production of fluorspar during the year. Ore mined at the Burlington Mine is milled at the company plant at Valmont. The Invincible shaft at the Burlington property is being reconditioned to give better access to the fluorspar ore bodies and, when completed, tonnages should be increased. The LaSalle Mining Company has been continuing a crosscut to tap uranium ore bodies at depth under the old Collowa shaft. Some uranium production was recorded from this property and indications are that more uranium tonnage will be forthcoming in future years. Many properties were busy doing exploration and development work in the county, such as the Utex Exploration Company, which is reconditioning the old Cash gold property. The Wah Chang Corporation mill at Sugarloaf was sold to private interests during the year. The new owners made some changes in the flowsheet and processed thorium ore as well as custom ores from Clear Creek County. Many sandstone quarries in Boulder County during 1959 produced red flagstone and several variations of building stone. Considerable drilling and exploration work has been done all through the year. No tungsten production was reported, although one mine was reported active.

---

*County seats

Gold	$	877
Silver		265
Copper		65
Lead		100
Total	$	1,307
Sand and Gravel		372,263
Fluorspar		1,401,453
Stone		93,659
Clay		30,375
Peat		250
Total	$	1,898,000
Petroleum	$	4,928
TOTAL PRODUCTION FOR COUNTY	$	1,904,235

CHAFFEE (3) *SALIDA

Area 1,040 square miles
Mines, mills, quarries, projects, placers—126 men

Mineral activity in Chaffee County was encouraging during 1959 as indicated by the twenty different operations which were developing, prospecting and producing. Production from these properties was materially restricted due to the smelter and steel strikes which were in effect during the last third of the year. Colorado Fuel & Iron Works' Monarch Quarry, a relatively steady producer, will show curtailed production this

---

*County seats

year because of the long steel strike. The Antero Refining Company and the Antero Mill have continued their changeover to handle beryl ore from the Boomer Mine and other beryl properties. Placer mining activity showed an increase during the year and many of the county's quarries continued steady production of monumental and ornamental stone. The Western Feldspar Mill operated throughout the year on spar from the Homestake and Soda Spar quarries belonging to M & S, Inc.

Gold	$	150
Sand and Gravel		104,304
Limestone		409,851
Stone		40,081
Feldspar, Mica, etc.		443,613
Total	$	997,849
TOTAL PRODUCTION FOR COUNTY	$	997,999

CLEAR CREEK (1) *GEORGETOWN

Area 395 square miles
27 mines, mills, projects—244 men

Three hundred forty-two feet of raising were completed in 1959 by the Clear Creek Mining Company on the Big Five property. Two hundred seventy-six feet of this raise were timbered with steel sets and a considerable amount of cross cutting and drifting was completed to develop known ore bodies. Some Big Five ore was delivered to the Silver Spruce Mill which was leased by the company. Considerable very interesting development work has progressed at the Lucania Tunnel under the direction of Charles Feterhoff for the Fall River Exploration & Mining Company. Their tunnel will be extended to cut known veins in the area of Russell Gulch. Some ore shipments were made from the Bald Eagle property and a considerable amount of development work continued throughout the year. Ore from the Bald Eagle property was milled at the Front Range Mill above Idaho Springs. Many properties were active in the county on development and prospecting work, which is a healthy indication for future production. The Pioneer highway bore on Highways 6 and 40 below Idaho Springs was completed but the enlarging of this tunnel to highway size was halted pending further appropriation for

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*County seats

the project. The smelter strike late in 1959 had a measurable effect on ore shipped from Clear Creek County.

Gold	$	65,615
Silver		18,568
Copper		9,000
Lead		30,000
Uranium		....
Beryllium		500
Total	$	123,683
Sand and Gravel	$	10,497
TOTAL PRODUCTION FOR COUNTY	$	134,180

COSTILLA (3) *SAN LUIS

Area 1,220 square miles
Mills, placers—12 men

Sand, gravel and scoria were the principal minerals produced from Costilla County in 1959. The Mesita Hill quarry and crushing plant, located two miles west of Mesita, Colorado, operated all year, producing volcanic scoria for cinder blocks used in the construction industry and in the roofing industry.

Sand and Gravel	$	52,160
Scoria		21,305
TOTAL PRODUCTION FOR COUNTY	$	73,465

CUSTER (2) *WESTCLIFFE

Area 738 square miles
7 mines, quarries, placers—26 men

The Lawson Clay Pit near Wetmore owned by Laclede Christy Company and operated by Ralph Pierce was in production most of the year. Several silver and gold properties were active on development work. Calico Minerals, Inc., did exploration work on their thorium claims and a small amount of ore was produced. A small tonnage of perlite from near Rosita was trucked to Florence for processing. The Crestone Company did considerable work on the road to their property located twenty miles west of Westcliffe on South Colony Creek, and some production was noted from their property during the year.

Sand and Gravel	$	43,731
Clay		1,361
Rare Earth		3,000
TOTAL PRODUCTION FOR COUNTY	$	48,092

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*County seats

DELTA (4) *DELTA

Area 1,161 square miles
Quarries, projects, placers, oil wells—116 men

Sand and gravel operations along the Uncompahgre River near Delta and on the Gunnison River near Cedaredge, Hotchkiss and Paonia continued to be the county's largest mineral industry. Some sulphur was strip mined at the Doty Sulphur Pit between Delta and Paonia and this product was used in the manufacturing of commercial fertilizer. At least one wildcat well was drilled in the county during the year.

Sand and Gravel	$	63,359
Stone		1,523
Sulphur		3,000
TOTAL PRODUCTION FOR COUNTY	$	67,882

DENVER (1) *DENVER

Area 73 square miles
Mills, projects—226 men

The Globe Plant of the American Smelting & Refining Company was inoperative during the last one-third of 1959 due to an industry strike. The General Chemical Division of Allied Chemical and Dye Corporation's sulphuric acid plant was active all year manufacturing acids for Colorado industries. International Minerals & Chemical Company's plant in Denver was dismantled during the year. Although only two operations covered by the Bureau of Mines were active during the year in Denver, most of the major mineral and petroleum companies have maintained their general offices in this city.

Sand and Gravel	$	855,686
Stone		7,350
TOTAL PRODUCTION FOR COUNTY	$	863,036

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*County seats

DOLORES (4) *DOVE CREEK

Area 1,029 square miles
5 mines, mills, projects, placers, oil wells—106 men

The Rico Argentine Mining Company started their lead-zinc mill early in 1959 after a shutdown of over a year. Ore milled was mined in the Mountain Springs, St. Louis Tunnel, and Nutmeg Mine. A 1,000-foot incline driven at an angle of 28° was completed between the St. Louis Tunnel and the Mountain Springs Mine. In addition to mining lead and zinc ore, pyrite ores were mined and processed into sulphuric acid at the company's Ramco plant. Acid from the Ramco plant is used in the uranium mills on the Colorado Plateau. Some work was done on the Barlow claims between Rico and Durango by the Vanadium Corporation of America. Uranium prospecting and development work continued in the Dunton area.

Gold	....
Silver	....
Copper	....
Lead	....
Zinc	....
Vanadium	....
Sand and Gravel	....

(Complete reports are not available at this time for the above production. They will be included in State total miscellaneous production.)

DOUGLAS (2) *CASTLE ROCK

Area 844 square miles
Mines, mills, quarries, placers—47 men

Limestone, silica sand, and clay continued to be the major minerals produced from Douglas County in 1959. The Helmer lime and sand pits were active all year as was the Hogback claim operated by the Robinson Brick Company. The Denver Brick & Pipe Company produced fire clay from the Ringenberg pit ten miles southwest of Littleton, and Stroud Whisenhunt had steady clay production from pits near Castle Rock. Most of the production came from the Castle Rock, Littleton, and Waterton areas.

Sand and Gravel	$	69,000
Limestone		3,728
Clay		147,770
Silica		4,974
TOTAL PRODUCTION FOR COUNTY	$	225,472

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*County seats

EAGLE (3) *EAGLE

Area 1,686 square miles
Mines, mills, quarries, projects, placers—487 men

By far the largest producer in Eagle County and one of the largest producers in the State in 1959 was the Eagle Mine and Mill owned and operated by the Empire Zinc Company at Gilman, Colorado. A crude ore tonnage of nearly 23,000 tons per month was mined and the same was milled at their underground mill on Battle Mountain. Development work consisted of driving additional exploration drifts and sinking new inclines into known ore reserves. The Roaring Fork Quarry, twenty-two miles southeast of Glenwood Springs, mined pumice and produced building blocks for the building trade. The Dotsero Quarry, operated by the Ideal Lava Products Company, was a steady producer of cinder blocks in 1959. Some exploratory drilling for uranium and other mineral products continued during the year.

Silver	$ 380,000
Copper	250,000
Lead	759,700
Zinc	5,126,400
Pyrite	40,000
Total	$ 6,556,100
Sand and Gravel	20,000
Scoria	541
Total	$ 20,541
TOTAL PRODUCTION FOR COUNTY	$ 6,576,641

EL PASO (2) *COLORADO SPRINGS

Area 2,159 square miles
Mines, quarries, placers, oil wells—84 men

Of considerable interest to Colorado and El Paso County was the completion of the NORAD access road to Cheyenne Mountain and the start of underground work on the new NORAD headquarters to be located in Cheyenne Mountain. Mineral production from the county consisted of concrete aggregate from the Castle Quarry and the Lennox Breed Quarry east of Colorado Springs. Limestone was produced from the Rampart Range property. Some uranium production was listed from the Kathryn No. 2 Mine located two miles southeast of Fort Carson.

Sand and Gravel	$ 1,092,667
Limestone	167,391
Stone	38,060
TOTAL PRODUCTION FOR COUNTY	$ 1,298,118

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*County seats

FREMONT (2) *CANON CITY

Area 1,562 square miles
9 mines, mills, 8 quarries, placers, oil wells—245 men

Production of marble, travertine, silica rock, gypsum, limestone, white quartz, dolomite, and clay in Fremont County makes this area one of the most diversified districts of nonmetallic production in the State. In addition to these minerals, sand, gravel, uranium, and some gold and silver were produced. The Cotter Corporation's uranium plant near Canon City is increasing its daily tonnage from 87 to 200 tons per day. Ores for the plant are drawn from many places in the State. The Fibreboard Paper Products Corporation completed their new plaster plant at Florence in March of 1959 and will process some 40,000 tons of gypsum ore per year. Early in 1959 the Peak Petroleum Company brought in a new producing well at 2,230 feet in the old Florence Field and reports indicate that future oil production from this county will again increase. Dolomite production was curtailed late in 1959 due to the steel plant strike at Pueblo. The Empire Zinc Company's sintering plant operated all year on concentrates from the Eagle property at Gilman. Colonna & Company continued to mine stone for the manufacture of terrazzo chips, and Laclede Christy had a steady production of fire bricks and clay during the year. By far the largest operation in the county was the Portland Cement Plant and Quarry of the Ideal Cement Company at Portland, Colorado. Uranium ore production continued throughout the year in the Tallahassee District. Construction has started on a beryl ore plant near Florence.

Uranium	....
Cement	$10,855,953
Sand and Gravel	49,128
Limestone	767,916
Stone	35,619
Clay	46,754
Gypsum	74,000
Total	$11,829,370
Petroleum	$ 114,800
TOTAL PRODUCTION FOR COUNTY	$11,944,170

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*County seats

GARFIELD (3) *GLENWOOD SPRINGS

Area 3,000 square miles
Mills, quarries, placers, oil wells—214 men

Mineral activity in Garfield County was limited to the Glenwood Springs Lime Quarry and the Union Carbide Nuclear Company's uranium-vanadium reduction plant at Rifle. Although there was much speculation and enthusiasm in oil shale, none of the properties was operated. They were, however, maintained on a standby basis. There is little doubt at this time but what the production of petroleum products from oil shale will shortly be a major Colorado industry. The new Union Carbide Nuclear plant at Rifle operated all year at near capacity tonnage on ore and concentrates from Slick Rock, Green River, Uravan, and Maybell. Many plant improvements were made and plant efficiency was greatly advanced. Some oil drilling activity was noted north of Rifle, Colorado. The Basic Chemical Company operated their lime kiln at Glenwood Springs.

Sand and Gravel	$	46,869
Limestone		33,118
Total	$	79,987
Gas	$	78,069
TOTAL PRODUCTION FOR COUNTY	$	158,056

GILPIN (1) *CENTRAL CITY

Area 149 square miles
24 mines, 3 mills, placers—82 men

Gilpin County, also known as the "Little Kingdom of Gilpin" which reportedly contained the richest square mile of mineral wealth on earth, has, for the lack of new and planned development work, dropped to a minor producer of Colorado minerals. Some twenty-three prospecting and reconditioning operations were reported to the Bureau of Mines during 1959, and most of these activities were in operation only a short time or at intermittent intervals. Low mineral prices and the smelter strike late in the year were responsible for a decrease in mineral production during the year. However, the unsteady mineral market in the past few years has had its detrimental effect on the opening and developing of this once rich area. A large portion of the peat produced for the Denver metropolitan area was mined at the Rudolph Peat Bog, the Braecher, and other bogs in the county. Many mines in the county were operated as tourist attractions. Nye Mathews Mining Company completed some 600 feet of crosscut tunnel checking their molybdenum deposit in the Apex Area of the county. The

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*County seats

Boodle Mill and several mines in the area were leased to the AKS Mining & Milling Company. Some custom ore was received by the company with very good results.

Gold	$	1,000
Silver		1,200
Copper		300
Total	$	2,500
Sand and Gravel		1,409
Peat Moss		31,295
Total	$	31,704
TOTAL PRODUCTION FOR COUNTY	$	34,204

GRAND (3) *HOT SULPHUR SPRINGS

Area 1,869 square miles

Projects, placers, oil wells—106 men

Work on the Williams Fork Dam by the Mountain States Construction Company for the Denver Water Board was completed early in 1959. Water stored behind the dam will replenish committed water in the Colorado River. Construction on Highway 40 on Rabbit Ears Pass progressed during 1959 as well as work on Highway 40 near Parshall. There was no reported mining activity in the county during the year.

Sand and Gravel	$	70,497
Stone		1,794
TOTAL PRODUCTION FOR COUNTY	$	72,291

GUNNISON (3 & 4) *GUNNISON

Area 3,243 square miles

19 mines, mills, projects, placers—283 men

Development work at the Keystone property, operated by the American Smelting & Refining Company, above Crested Butte was suspended in 1959 following the closing of the company mill late in 1957. The property is being maintained on a standby basis. Construction on the Paonia dam and tunnel progressed throughout the year, with a completion date set for 1960. Pinnacle Exploration Company continued new development work on their property on Indian Creek near Marshall Pass. Their ore was shipped to the Cotter Corporation's plant at Canon City. The Gunnison Mining Company operated their uranium mill at Gunnison on ores from their Los Ochos property in Saguache County, and on ores from the Tallahassee district in Fremont County, as well as on ores from other parts of the State. Additional county activities consisted of prospecting and development work as well as some production from the Carter Mine, Gold Links, Baxter, Falcon and the Independent Mine on Italian Mountain. The Standard Uranium Company operated the Micawber property all year and ore was milled at the Standard Mill above Crested Butte. A strike of columbite ore was announced by the E. I. du Pont Company at Powderhorn where considerable drilling and development work has been under way for the past several years. Mineral activity in Gunnison County in 1959 well surpasses activities in former years.

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*County seats

Gold	
Silver	
Copper	
Lead	
Zinc	
Uranium	

(Complete reports are not available at this time for the above production. They will be included in State total miscellaneous production.)

Sand and Gravel	$ 123,074
TOTAL PRODUCTION FOR COUNTY	$ 123,074

HINSDALE (4) *LAKE CITY

Area 1,062 square miles
Mines—10 men

Col-Tex Mining Company of Lake City, in addition to completing a mill, conducted development and exploration work on the Pelican gold, silver, lead, and zinc property owned by Roy Prey of Lake City. Ten men were hired during the summer months for this project. Exploratory work was done on the Silver Key mine by Smith-Thaete of Colorado Springs. There was no production recorded from this once large mineral producing county.

JACKSON (3) *WALDEN

Area 1,628 square miles
Mines, mills, placers, oil wells—135 men

The closing of the Ozark-Mahoning Company's fluorspar mines and mill near Cowdrey in February of 1959 was a result of the termination of the government purchase program of this mineral. Outside of some prospecting and development work on other minerals, there were no other producers in the county this year. Petroleum production was steady at the Battleship, McCallum and Canadian River oil fields. An aver-

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*County seats

age number of new wells were completed with a regular percentage of dry holes. Wildcat activities in the county were responsible for several new producers.

Sand and Gravel	$ 61,523
Fluorspar	60,654
Total	$ 122,177
Petroleum	2,753,863
Gas	6,003,566
Total	$ 8,757,429
TOTAL PRODUCTION FOR COUNTY	$ 8,879,606

JEFFERSON (1) *GOLDEN

Area 791 square miles

15 mines, mills, 14 quarries, projects, placers, oil wells—255 men

Sand and gravel, fire clay, uranium, petroleum, fluorspar and feldspar were produced in Jefferson County in 1959. Gravel was taken from the several pits east of Golden on Clear Creek and rip rap was quarried at the mouth of Clear Creek Canyon. Robinson Brick & Tile Company, George W. Parfet Estate, Denver Fire Clay Company and the Denver Brick & Pipe Company were the principal clay producers from their pits and mines along the Hogback east of the foothills. Uranium was produced by the Denver-Golden Oil & Uranium Company from their property on Ralston Creek. This ore was shipped to the Cotter Corporation mill at Canon City for processing. Some uranium production was recorded from the Foothills Mine, now operated by the Cotter Corporation. Several other operations in the Golden Gate area were active in prospecting and developing their properties for uranium ore. Beryl Ores, Inc., near Arvada purchased beryl and mica ore from operations in Jefferson and surrounding counties. Of interest to the mining industry in Jefferson County was the sealing and preparation of the old Leyden coal mine for gas storage by the Public Service Company of Colorado.

Uranium	....
Sand and Gravel	$ 2,178,754
Fluorspar	801
Stone	52,826
Clay	643,271
Total	$ 2,875,652
Petroleum	$ 1,412
TOTAL PRODUCTION FOR COUNTY	$ 2,877,064

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*County seats

LAKE (3) *LEADVILLE

Area 384 square miles
5 mines, mills, projects, placers—2,267 men

Although there was very little varied mineral activity in Lake County during 1959, this county was the State's largest producer of metallic minerals through the single operation of the Climax Molybdenum Company mines located at Climax, Colorado. Production at this property was near capacity with a daily average of over 33,000 tons. Their new by-products plant was completed and work progressed on the new circular, development shaft below the Storke level. Plans are being formulated to remove huge tonnage of molybdenum ore from the new 600 Level, and crushing facilities are being installed on this level to handle the crude tonnage which will be produced. Exploratory and development drilling for Climax by the Longyear Company in the Red Mountain area above Twin Lakes continued during the summer months. In general, activities at Climax during 1959 indicated expanded future operations, with an optimistic viewpoint, based on good management and constructive development. The Arkansas Valley plant of the American Smelting & Refining Company was closed for approximately four months during the year because of a strike by the International Union of Mine, Mill and Smelter Workers. This strike had its effect on mining activities all over the State, and many small operators were forced to suspend mining activities for the lack of being able to dispose of their ore. Some other mining activities were noted in the county but work was limited to assessment, prospecting or development. A few placer operations were active with results that indicate more activity during the summer of 1960. Rehabilitation work on the Busk-Ivanhoe reclamation water tunnel was completed May 2, 1959.

Gold	$ 1,586
Silver	200
Lead	1,200
Molybdenum	45,695,900
Tungsten	3,365,000
Pyrite	363,290
Tin	43,400
Total	$49,470,576
Sand and Gravel	$ 20,000
TOTAL PRODUCTION FOR COUNTY	$49,490,576

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*County seats

LA PLATA (4) *DURANGO

Area 1,691 square miles

6 mines, mills, placers, oil wells—400 men

Mining activity in La Plata County during 1959 was confined mostly to assessment and development work. Several properties in La Plata Canyon, as well as the Bessie G, Muldoon, and Neglected Mines carried on development work during the summer months. A new electric smelter was constructed by the Silver State Smelting & Refining Company at the south city limits of Durango. This smelter will receive ores from the area, and ship their product to other smelters for final treatment. The Vanadium Corporation of America's uranium mill at Durango operated all during the year on maximum tonnage. Plant improvements were made and new installations were responsible for increased ore tonnage. Ores were received from company owned mines as well as other mining ventures on the Colorado Plateau. Oil and gas production in La Plata County was steady from Barker Dome, Ignacio, and Red Mesa, with increased gas production and activity from all six fields in the county.

Uranium	......
Sand and Gravel	$ 42,250
Petroleum	59,608
Gas	2,769,434
Total	$ 2,829,042
TOTAL PRODUCTION FOR COUNTY	$ 2,871,292

LARIMER (1) *FORT COLLINS

Area 2,640 square miles

6 mines, 6 mills, 17 quarries, projects, oil wells—287 men

Cement and plaster manufacture at the Ideal Cement Company's Boettcher plant at La Porte accounted for the large dollar volume of mineral production in Larimer County. Limestone and shale were mined at the company's quarries in increased amounts over 1958. Limestone production from the Rex Quarry, operated by the Norberg Construction Company, was steady as was production of gypsum from the Loveland Quarry operated by the United States Gypsum Company. The beryl plant of Minerals Concentrates & Chemical Company at Loveland was dedicated and opened during the year. This plant will treat low-grade beryl ore from the Boomer and other mines in the State and will concentrate these ores into a high grade beryllium oxide. An increased amount of building stone was quarried from the Colorado Stone Company's quarry and other quarries in the area. Petroleum production continued from the eastern part of the county and wildcat activity was successful in bringing in new wells and opening new fields. Beryl ore prospecting and development, as well as uranium prospecting, continued in the county throughout the year. Sand and gravel production remained steady. A new mica plant was put into operation by the Jolex Mica Company north of Fort Collins and some oil well mica was produced.

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*County seats

Beryllium	$ 2,000
Cement	9,549,918
Sand and Gravel	270,198
Limestone	58,907
Stone	132,281
Feldspar, Mica, etc.	83
Gypsum	131,626
Total	$10,143,013
Petroleum	567,218
Gas	4,666
Total	$ 571,884
TOTAL PRODUCTION FOR COUNTY	$10,716,897

LAS ANIMAS (2) *TRINIDAD

Area 4,798 square miles

Mines, placers, oil wells—84 men

Fire clay mined at the Santa Fe Clay Mine, located at Starkville and operated by the Scott-Ruiz Coal Company, was steady during the year although production was hampered by the steel strike which closed many properties in the area. Sand and gravel production added to the county's mineral production. Petroleum activity was evident and indicates some future oil production from the county.

Sand and Gravel	$ 289,117
Stone	147,148
Clay	25,808
Total	$ 462,073
Gas	$ 8,171
TOTAL PRODUCTION FOR COUNTY	$ 470,244

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*County seats

LOGAN (1) *STERLING

Area 1,849 square miles
Placers, oil wells—320 men

Logan County was fourth in production of petroleum products in Colorado with 5,220,597 barrels. This was a slight decrease over 1958 production. Eighty-one fields in the county were active, which places this county first in the number of producing fields. Oil activities are scattered generally over the entire county.

Sand and Gravel	$ 2,260
Petroleum	15,296,349
Gas	1,212,828
Total	$16,509,177
TOTAL PRODUCTION FOR COUNTY	$16,511,437

MESA (4) *GRAND JUNCTION

Area 3,334 square miles
57 mines, mills, 15 projects, placers, oil wells—1,676 men

Grand Junction in Mesa County continues to be the center of uranium mining activity in Colorado although there are no producing uranium mines within thirty miles of this city. The Atomic Energy Commission's Western Operations Office, procurement station and pilot plant installation, are the center around which all western uranium production is authorized. The 300-ton uranium processing plant of Climax Uranium Company is located in Grand Junction and all company mined ore is treated at their Grand Junction plant. Active and producing uranium mines in Mesa County have shipped their ores to the several mills located on the plateau. Continued new development and ore prospecting in the Outlaw Mesa, Calamity Mesa, Tenderfoot Mesa, and Gateway areas have kept Mesa County third in uranium production in the State. Over sixty-eight active and producing mines have been recorded by the Bureau of Mines in this county in 1959. These mines employ from two to thirty-five employees and have added materially to the economy of Mesa County and the State. Some petroleum production was recorded in the county during 1959 and wildcat activity promises that future petroleum production will increase. Clay was mined by the Grand Junction Brick & Tile Company and processed into building bricks at their Grand Junction plant. Sand and gravel continued to be a valuable county product due to considerable building and road con-

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*County seats

struction. The Vega Dam was completed in 1959, and work continues on ditches, canals and tunnels connected with the project.

Uranium		......
Vanadium		...
Sand and Gravel	$	447,423
Stone		254,814
Clay		2,039
Gypsum		3,000
Total	$	707,276
Gas	$	78,593
TOTAL PRODUCTION FOR COUNTY	$	785,869

MINERAL (3) *CREEDE

Area 923 square miles
Mines, mills—46 men

Rare and base metal production in Mineral County shows an increase in 1959 over 1958. The Emperius Mining Company, one of the larger producers of silver, lead and zinc in Colorado, operated all year without interruption. The Amethyst and Commodore Mines supplied an average of 2,700 tons per month of crude ore to the Emperius Mill located below Creede. Concentrates were shipped to Leadville, Colorado, and Amarillo, Texas. Operations at the Outlet Tunnel were steady all year and ore from this property was treated at the Sublet Mill operated by the Sublet Mining Company. Although there was considerable prospecting in the county during the summer months, no other mining activity was reported.

Gold	$	25,500
Silver		114,000
Lead		284,000
Zinc		189,474
Total	$	612,974
Sand and Gravel		163,214
Stone		1,404
Total	$	164,618
TOTAL PRODUCTION FOR COUNTY	$	777,592

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*County seats

MOFFAT (3) *CRAIG

Area 4,761 square miles
Mines, mills, projects, placers, oil wells—451 men

Petroleum and uranium production continued to be Moffat County's chief mineral industry for 1959. Considerable placer gold activity reached the prospecting and development stages during the year on property in the Hahns Peak area and some gold production was recorded. The principal petroleum producing fields were Powder Wash, Isles Dome, Hiawatha, Elk Springs, Maudlin Gulch and Thornburg Fields. New wells were completed in the Moffat oil field area, Danforth Hills and Buck Peak area. Several new fields were opened during the year and production in the county remained steady for both oil and gas. Trace Elements Corporation, a subsidiary of Union Carbide Nuclear Company, operated their Maybell uranium mill and Marge Pits to capacity during the year on an excess of 1,000 tons of crude ore per day. Development drilling was carried on by the company and new reserve ore was blocked out.

Uranium		....
Vanadium		....
Sand and Gravel	$	66,860
Petroleum		3,809,922
Gas		1,047,730
Total	$	4,857,652
TOTAL PRODUCTION FOR COUNTY	$	4,934,512

MONTEZUMA (4) *CORTEZ

Area 2,097 square miles
Projects, placers, oil wells—188 men

Oil and gas activity in the Four Corners area included several new discoveries in Montezuma County during the year. Many of the major oil companies, including the Texas Company, Gulf Oil Company, and the Lion Oil Company, have reported successful completion in the extreme western end of the county on the eastern end of New Mexico's Aneth Field. Both oil and gas wildcat ventures were successful. Some work was done on the new highway between Cortez and Aneth Field. Colorado Carbonics Corporation had a steady production of CO_2 gas from their McElmo Creek wells and plant. Development work with some gold production continued at the Red Arrow group east of Mancos during the year under the direc-

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*County seats

tion of George Gilmore. Uranium prospecting and development work continued in the east end of the county along the Dolores River.

Gold	$	2,000
Silver		3,000
Total	$	5,000
Sand and Gravel	$	445,494
Stone		44,960
Total	$	490,454
Petroleum		313,152
Gas		24,623
Total	$	337,775
TOTAL PRODUCTION FOR COUNTY	$	833,229

MONTROSE (4) *MONTROSE

Area 2,240 square miles

210 mines, mills, projects, placers, oil wells—1,517 men

The mineral industry of Montrose County in 1959 consisted of uranium-vanadium mining and milling, with some sand and gravel production. This county continued to be the State's leading uranium producer from the many mining and milling areas in the western end of the county. New deposits of carnotite ore were discovered, developed and mined in the Monogram Mesa, Long Park, Paradox Valley, and Carpenter Ridge areas, as well as most areas on the plateau. The Union Carbide Nuclear Company plant at Uravan operated on capacity tonnage all year and new improvements and flowsheet changes were made. Uranium mines from over the district shipped their crude ore to Uravan, Rifle, Grand Junction or Durango. Access roads to remote areas were constructed which opened new areas for development. Several main highway projects were started and completed during the year. Some of the larger operators in Montrose County were Golden Cycle Corporation, Vanadium Corporation of America, Worcester Mines, Inc., Union Carbide Nuclear Company, Four Corners Uranium Company, Climax Uranium Company, and others too numerous to mention.

Uranium		—
Sand and Gravel	$	757,156
Stone		119,049
TOTAL PRODUCTION FOR COUNTY	$	876,205

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*County seats

MORGAN (1) *FORT MORGAN

Area 1,300 square miles
Placers, oil wells—320 men

Morgan County held second place in petroleum production in Colorado in 1959 with a production of 8,610,282 barrels of oil from forty-four fields. Adena field was the second largest producer with 6,354,704 barrels of oil. Some wildcat activity was evident with a fair measure of success. Gas production was steady with 1,430,255 of dollar value. Sand and gravel production was primarily for highway construction and maintenance.

Sand and Gravel	$ 167,264
Stone	388
Total	$ 167,652
Petroleum	25,228,126
Gas	1,430,255
Total	$26,658,381
TOTAL PRODUCTION FOR COUNTY	$26,826,033

OURAY (4) *OURAY

Area 540 square miles
10 mines—130 men

Mining operations of the Idarado Mining Company through their Treasury Tunnel, located on Highway 550 at Red Mountain, were continuous during 1959 in spite of the 115-day smelter strike which required the company to stockpile concentrates pending a strike settlement. All ore mined at the Idarado property, which extends from Red Mountain to Telluride, is trammed to the Telluride side and milled in their 1,000-ton per day Pandora Mill. The old Camp Bird Mill, seven miles southwest of Ouray, was dismantled and preparations were under way at the end of the year to construct a new mill to handle ores developed on the Pierson and other veins during the last two years. Other operations were carried on by the Francis Consolidated Mining Company at their Ruby Trust and Torpedo Eclipse properties and by Bay City Mining & Milling Company at their mill below Ouray and at the Bachelor property on Dexter Creek. Several other Ouray County properties were active on development and exploration work and some access roads were constructed into heretofore inaccessible areas.

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*County seats

Gold	$ 185,070
Silver	127,044
Copper	349,118
Lead	469,904
Zinc	723,047
Total	$ 1,854,183
Sand and Gravel	$ 800
TOTAL PRODUCTION FOR COUNTY	$ 1,854,983

PARK (2) *FAIRPLAY

Area 2,178 square miles

6 mines, mills, projects, placers—269 men

The U. S. Beryllium Company, operators of the Boomer and Blue Jay beryllium properties, located at Badger Flats, have been in continuous operation during the year and ore was shipped both to the government buying station in South Dakota and to the mineral concentrates mill in Larimer County in Colorado. This beryl deposit is recognized as the largest open deposit in Colorado. The largest underground project in the county was the advancing of the twenty-three mile Harold D. Roberts water diversion tunnel by the Blue River Constructors. This tunnel, when completed, will receive Blue River water at Dillon, Colorado, and deliver this water to the South Platte River at Grant, Colorado. At the end of 1959 less than one mile of tunnel remained to be driven for a complete connection. Placer operations were conducted by Jack Clayton on the Alma Placer at Alma, Colorado, during the summer months. Concrete aggregate was crushed, screened, and washed near Jefferson, Colorado, to be used in the concrete lining of the Roberts tunnel. Several gold and silver properties were prospected and developed with some production recorded.

Gold	$ 4,000
Silver	31,000
Lead	110,000
Beryllium	47,881
Total	$ 192,881
Sand and Gravel	$ 524,954
TOTAL PRODUCTION FOR COUNTY	$ 717,835

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*County seats

PITKIN (3) *ASPEN

Area 975 square miles
Placers—5 men

The only activity reported in this once heavy producing county was on Iron Mountain above Ashcroft. Iron ore was stripped from the Taylor Peak Massive by Rees Llewellyn and shipped by railroad to Salt Lake City. The original lot, consisting of several thousand tons, was a trial shipment to determine the economic feasibility of mining fifteen to thirty million tons reportedly located in this area. The access road to the Montezuma Mine above Ashcroft was reconditioned during the year, and there was evidence of uranium prospecting in various parts of the county.

Sand and Gravel	$ 11,336
TOTAL PRODUCTION FOR COUNTY	$ 11,336

PUEBLO (2) *PUEBLO

Area 2,414 square miles
Mines, placers, oil wells—74 men

Sand, gravel, uranium, and clay production was reported for Pueblo County during 1959. Cliff & Creek Mining Company was constructing a uranium upgrading plant to concentrate uranium ores from their Kathryn No. 2 Incline located on Turkey Creek. Clay was mined by the Standard Fire Brick Company and the Freeman Fire Brick Company from their properties on Rock Creek. General Refractories mined fire clay from four underground mines and one open pit near Stone City. Arthur L. Wands operated the Nellie Helen clay mine all year. Sand and gravel was mined and processed at several plants in the county and used in construction and highway projects. The Colorado Fuel & Iron Company's steel strike had considerable effect on county mineral production for 1959.

Sand and Gravel	$ 759,546
Clay	202,418
TOTAL PRODUCTION FOR COUNTY	$ 961,964

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*County seats

RIO BLANCO (3) *MEEKER

Area 3,264 square miles
Mines, placers, oil wells—482 men

Rio Blanco County maintained its first place in Colorado mineral production, as well as petroleum production, during 1959. Rangely field, located in the western part of the county, was the largest petroleum producer in the State. This field was unitized two years ago and all operations are under the direction of the California Company. Many new wells were completed during the year, which assures record production for years to come. Oil activity continued in the Meeker, Wilson Creek, and Piceance Creek areas with above average success. Uranium was produced from the Butterfly Pit, Coal Creek No. 1, and Shylo properties on Uranium Peak located northeast of Meeker. Sand and gravel were produced from pits along the White River. Of interest to the State and county was the opening of the Black Diamond No. 1 gilsonite deposit by Field Services, Inc. This deposit, located twenty-six miles southwest of Rangely, was prospected and partially developed late in 1959, prior to a shutdown due to title difficulties.

Uranium	....
Sand and Gravel	$ 120,271
Petroleum	60,225,848
Gas	5,985,574
Total	$66,211,422
TOTAL PRODUCTION FOR COUNTY	$66,331,693

RIO GRANDE (3) *DEL NORTE

Area 916 square miles
Placers—10 men

After considerable leasing and exploration activity in 1958, the Tennessee Gas and Transmission Company started a wildcat well seventeen miles north of Monte Vista early in 1959. Information as to the progress of this well has been restricted pending completion. This well is reported to be a deep test well, with good possibilities of bringing in either gas or oil. Sand and gravel activities were normal.

Sand and Gravel	$ 16,000
TOTAL PRODUCTION FOR COUNTY	$ 16,000

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*County seats

ROUTT (3) *STEAMBOAT SPRINGS

Area 2,331 square miles
Quarries, placers, oil wells—52 men

The McCoy Aggregate, operators of the McCoy Cinder Pit located east of McCoy, had a steady production of volcanic scoria during 1959. This product is used in the manufacturing of cinder blocks for the construction trade. The English Oil Company completed a producing wildcat discovery twelve miles south of Hayden. Texaco, Inc., had a steady production from their Tow Creek field, and continued exploration drilling in the area around Oak Creek on the Pinnacle prospect. Petroleum production was also recorded from the area west of Steamboat Springs and the Trout Creek area. Sand and gravel also added to the county mineral production.

Sand and Gravel	$ 467,490
Scoria	22,200
Total	$ 489,690
Petroleum	333,472
Gas	4,465
Total	$ 337,937
TOTAL PRODUCTION FOR COUNTY	$ 827,627

SAGUACHE (3 & 4) *SAGUACHE

Area 3,146 square miles
17 mines, mills, quarries, projects, placers—237 men

Fifteen mining and milling operations and one smelting operation were listed on the east side of the Continental Divide in Saguache County by the Bureau of Mines. On the western slope mining was confined to uranium production by the Gibraltar Minerals Company at their Lookout property on Harry Creek, and the Gunnison Mining Company Los Ochos Group below Cochetopa Pass. The Los Ochos Group has been a steady producer for several years, supplying crude uranium ore to the company's mill at Gunnison. On the eastern slope Superior Mines Company operated the Rawley property most of the year and the ore was milled at the National Minerals Mill at Bonanza. Manganese mined at the Pershing Mine ten miles northwest of Villa Grove was milled at the Pershing Mill six miles south of Bonanza. Some turquoise production was listed from the Villa Grove Turquoise Mine and some rare metal production was listed from several other operations in the Bonanza area. The Monon Mining Company did development work on

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*County seats

the Little Annie mine near Summitville. Trial runs were made at the Copper Head Smelter, twelve miles southeast of Mineral Hot Springs.

Gold	$ 886
Silver	8,870
Copper	100
Lead	38,262
Zinc	68,656
Uranium	....
Manganese	61,000
Total	$ 177,774
Sand and Gravel	84,548
Turquoise	16,000
Total	$ 100,548
TOTAL PRODUCTION FOR COUNTY	$ 278,322

SAN JUAN (4) *SILVERTON

Area 392 square miles
13 mines—131 men

The Standard Uranium Corporation of America, by arrangement with Marcy Shenandoah Corporation, has taken over active management of the Shenandoah mining property and the Central Mill, formerly the Mayflower Mill. Milling facilities have been modernized and preparations to mill company as well as custom ore in the mill are near completion. Standard Uranium has also purchased or secured leases on the old Sunnyside and surrounding property and are reconditioning and extending the American Tunnel under the newly acquired property. Late in the year an announcement was made that the company will actively develop the rhodenite deposits in the area and will construct a multimillion dollar plant in the area to recover manganese from rhodenite ore. Other properties that were active in the San Juan County were the Black Hawk, Columbus, Burbank, Little Dora, Esmeralda, Graysill Group, Kansas City, Lark, Silver Cloud, Silent Friend and the Brooklyn. Frank Richardson completed an access road from Mineral Creek to the Brooklyn Mine along with considerable exploration and development work. Present activity in San Juan County warrants an optimistic outlook

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*County seats

for future mineral production and prosperity for the once busy mining town of Silverton.

Gold	....
Silver	....
Copper	....
Lead	....
Zinc	....
Uranium	....
Vanadium	....

(Complete reports are not available at this time for the above production. They will be included in State total miscellaneous production.)

SAN MIGUEL (4) *TELLURIDE

Area 1,284 square miles

96 mines, mills, projects, placers, oil wells—1,005 men

San Miguel County was first in production of silver, lead and copper, and second in uranium production in the State in 1959. Idarado Mining Company operations in San Miguel and Ouray County held to a steady production all year in spite of declining mineral prices and a prolonged smelter strike which required the company to stockpile concentrates during the last quarter of the year. Ore was mined from the Black Bear vein, Argentine and Ajax veins in both counties and was transported to the Pandora Mill east of Telluride. Union Carbide Nuclear Company had a full year of operation at their Slick Rock upgrading plant, located at Slick Rock, Colorado. Uranium ores were received from both company and private mines in the area. New uranium deposits were opened in the Slick Rock, Gypsum Valley and Ham Canyon areas, and a slight increase in production tonnage was noted. Boyd Robinson continued to operate the Bog Iron Pits, owned by C. K. Williamson and located above Old Ophir. The product was shipped east by rail and used in the manufacture of paint pigment. County ore reserves of precious metals, base metals and uranium-vanadium indicate strong production from the county for several years.

Gold	$ 548,800
Silver	370,634
Copper	1,047,354
Lead	1,397,715
Zinc	2,162,175
Uranium	....
Vanadium	....
Bog Iron	30,000
Total	$ 5,556,678
Sand and Gravel	$ 126,335
TOTAL PRODUCTION FOR COUNTY	$ 5,683,013

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*County seats

SUMMIT (3) *BRECKENRIDGE

Area 616 square miles

7 mines, mills, projects, placers—505 men

Although very little mineral production was credited to Summit County in 1959, activities under the jurisdiction of the Bureau of Mines were responsible for the employment of a record number of men. Three headings of the Harold D. Roberts Tunnel were steadily advanced all year by the Blue River Constructors, Inc. East and west headings progressed from the Montezuma Shaft and the Dillon heading driven east was within a few feet of connecting with the west shaft heading at the end of the year. Gravel for lining the tunnel was washed, screened and stockpiled at the Dillon Portal. Construction of the By-Pass Tunnel at the Dillon Dam site was started and plans for vacating the town of Dillon were completed by the Denver Water Board. Climax Molybdenum Company completed construction of their Ten Mile Tailings Pond and Tunnel above Kokomo. Water for this pond will be returned for use at the company mill in Lake County. Several small properties were active on prospecting and development work during the year. New work was done at the Cashier and Shoe Basin Mine and O. A. Sutton completed installation of his placer equipment three miles north of Tiger. Work was started on the McCullough Tunnel on Hoosier Pass by Brown Construction Company for Colorado Springs Department of Public Utilities.

Gold	$	3,500
Sand and Gravel		9,160
Stone		32,315
Total	$	41,475
TOTAL PRODUCTION FOR COUNTY	$	44,975

TELLER (2) *CRIPPLE CREEK

Area 555 square miles

9 mines, mills, quarries, placers—189 men

High mining costs, along with a fixed price on gold, had a serious effect on Teller County's mineral production in 1959. The 1,000-ton Carlton Mill, owned by the Golden Cycle Corporation, was operated on reduced tonnage all year, which materially lowered gold and silver production from the county. A new shaft was sunk 152 feet below the bottom of the company's Ajax workings where good gold ore was encountered. The Cresson Mine, operated by the Cresson Consolidated Gold Mining Company, was closed in September of this year. However, their employees were transferred to the Ajax Mine. Other properties operated were the Deadwood, Grace Greenwood, Scott Shaft, International, and Little May. The Mollie Kathleen Mine was operated as a tourist attraction during the summer months. Silica rock chips were quarried at the Black Cloud Quarry. Peat moss was produced at the Alpen Meadow Bog, and monumental stone was quarried at the Pikes Peak Granite Company's quarry located in southwestern Teller County. Cotter Corporation did considerable uranium exploration work in the High Park area.

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*County seats

Gold	$ 1,135,000
Silver	41,000
Total	$ 1,176,000
Stone	29,225
Peat	18,000
Total	$ 47,225
TOTAL PRODUCTION FOR COUNTY	$ 1,223,225

WASHINGTON (1) *AKRON

Area 2,530 square miles

Placers, oil wells—230 men

Petroleum production in Washington County in 1959 was $20,211,278 as compared with $20,807,857 in 1958. New wells were drilled in the eastern and western part of the county with a fair ratio of success. This county maintained its position as the third largest petroleum producer in the State. Sand and gravel production added to the yearly mineral production.

Petroleum	$19,834,459
Gas	376,819
TOTAL PRODUCTION FOR COUNTY	$20,211,278

NOTE: County mineral production mentioned or listed without a value has been placed in the State's total mineral production on page 17.

*County seats

Safety Awards

Safety Awards have been issued to the following list of operators who have completed the year 1959 without a lost-time accident and who have exceeded 30,000 man-hours of employment during the year:

American Smelting & Refining Company—Globe Plant
C. N. Athey—Opera Box Group
The California Company—Colorado Drilling Operations
Orval Clark & Art Harris—Fawn Springs Nos. 9-11 & 12-21
Climax Uranium Company—G-3 Mine
Colorado Materials Company—Lennox Breed Quarry
General Chemical Division, Allied Chemical & Dye Corporation—Denver Plant
General Chemical Division, Allied Chemical & Dye Corporation—Valmont Plant
Ideal Cement Company—Boettcher Quarry
Ideal Cement Company—Portland Quarry
Oriental Oil Company—Gramps Field
Texaco, Inc.—Wilson Creek Field

Awards of Merit have been issued to the following operators, some of which had no lost-time accidents during the year but had insufficient man-hours to qualify for a Safety Award. This award is given to large and small operators alike in appreciation of outstanding effort and cooperation in the field of Safety during the year.

John Babb—Trace Elements G Pit
Bachelor Mines—Bachelor Shaft
Barnes Brothers—First National Bank Mine
E. M. Barnes—Star No. 3 Mine
C. W. Bunker—Ophir Mine
D. Burbridge—Little Dick Mine
The California Company—Rangely Operation
Douglas Cleghorn—Sandy Group
Climax Molybdenum Company—Climax Operations
Colorado Fuel & Iron Corporation—Canon Dolomite Quarry
Colorado Fuel & Iron Corporation—Monarch Lime Quarry
Colorado Limestone Company—Calcite Quarry
Continental Oil Company—Waldon Operation
Cotter Corporation—Cotter Mill
Cowan Brothers—Travertine Quarry

Dulaney Mining Company—Radium No. 7 Group
Empire Zinc Division, New Jersey Zinc Company—Canon City Plant
Ralph Flesh
Frankfort Oil Company—Colorado Drilling Operations
R. H. Franklin—Coloradium Group & Henry Clay Mine
Jim Galyean—Long Park No. 4 Mine
Gunnison Mining Company—Gunnison Mill
Hardin & Plantz—Pond Mine
A. Harmon—Calamity Group
Harrison Construction Company—San Miguel County Highway Projects
Herron & Strong Construction Company—Mesa and Gunnison Counties Highway Projects
R. Hickman—Lumsden No. 2 Mine
Hopkins Construction Company—Trace Elements Pit A
Ron Hutton—Big Mitt Mine
Idarado Mining Company—Pandora Mill
Javernicks & Borgeson—Mill No. 2 Mine
E. J. Johannsen—Rim Rock No. 2 Mine
Sam Johnson—Northern No. 6 Mine
La Salle Mining Company—La Salle Shaft
MacPherson Drilling Company—Colorado Drilling Operations
E. M. Meyers—Eleanor Mine
Frank H. Norberg Company—Taylor Gulch Quarry
O'Bryant & Powell—Production & Long Park No. 10 Group
George W. Parfet Estate, Inc.—Rockwell & Green Mountain Quarries
J. Ricks—Rock Raven Mine
C. C. Sanders—Long Park Nos. 6 & 12 Mine
Sitton & Sitton—Sitton Shaft
Lowell Staats—Carnation Mine
Standard Fire Brick Company—Mustang & Rock Creek Mines
Sterling Sand & Gravel Company—Gravel Pit
Stocklasa, Blake & Power—Dolores Group
Stroud-Whisenhunt—Stevens Ranch Clay Pit
Texaco, Inc.—Hamilton Area
M. Trone—Long Park No. 3 Mine
Carl Tucker—Dorothy Jean No. 1 Mine
Union Carbide Nuclear Company—Maybell Plant

Union Carbide Nuclear Company—Rifle Plant
Union Carbide Nuclear Company—Slick Rock Plant
Union Carbide Nuclear Company—Mining Department
Union Carbide Nuclear Company—Uravan Plant
United States Gypsum Company—Loveland Quarry
Vanadium Corporation of America—Bitter Creek Mine
Vanadium Corporation of America—New Verde Mine
Vanadium Corporation of America—Sunbeam Mine
Vanadium Corporation of America—Three Jacks Mine
Worcester Mines—Worcester Shaft
Ken Workman—Fawn Springs No. 10 Mine

Accidents

Lost-time accidents in the mineral industry, exclusive of coal, in 1959 showed an increase over 1958. This increase was due to more complete coverage of accidents on reports submitted to the Bureau of Mines. Severity of accidents showed a marked decrease over the preceding year, which indicates improved cooperation between the Bureau inspectors and the operators. There were more lost-time accidents underground per man-hours worked but the accidents in open pit and quarry mining were more severe. Over-all frequency and severity figures compare favorably with the national averages.

Thirteen fatal accidents occurred in the mineral industry, exclusive of coal, during the year, which is one less than in 1958. One fatal occurred on a mine surface operation and five fatals occurred in underground mining operations. One fatal was recorded at an open pit mine, three at State and Federal projects, two at oil rigs and one at a quarry operation. One fatal occurred for every 1,139 men working in the mineral industry, exclusive of coal. One fatal occurred for every 1,245 men working in the mining industry, one for every 1,375 men in the oil industry and one for every 697 men working on State and Federal projects. The fatal rate per 1,000 men in the various divisions for 1959 were: Entire Industry 0.87, Mining 0.80, Oil 0.72, Projects 1.03.

All serious and fatal accidents were investigated and a written report was made to the Bureau of Mines by our inspectors. Any faulty conditions or procedures were corrected, and recommendations to prevent a similar accident were given the operator. These reports and recommendations were distributed to all inspectors, the insurance company, United States Bureau of Mines, and the operator for the purpose of accident education towards the elimination of a re-occurrence of the same type of accident.

All of the above mentioned accidents were avoidable and their causes were traced directly to either the infraction of safety rules, carelessness, or improper procedures.

SUMMARY OF ACCIDENTS

	Total Man-Hours	Lost-Time Injuries	Number of Days Lost	Frequency Rate Per One Million Man-Hours	Severity Rate Per One Million Man-Hours
Mines, Underground	8,875,200	536	36,474	60.3	4,109.
Mines, Surface	3,871,200	115	13,317	29.7	3,440.
Quarries—Pits	1,065,600	12	6,096	11.2	5,720.
Mills—Plants—Smelters	8,388,000	67	862	7.9	102.
State & Federal Projects	5,013,600	161	21,296	32.1	4,247.
Oil Wells	6,600,000	284	14,971	43.0	2,268.
Totals	33,813,600	1,175	93,016	34.7	2,750.

This table includes the loss of 78,000 days due to 13 fatalities and 42,150 days due to 17 permanent partial disabilities.

$$\text{Frequency Rate} = \frac{\text{Number of Injuries} \times 1{,}000{,}000}{\text{Number of Man-Hours of Exposure}} \qquad \text{Severity Rate} = \frac{\text{Total Time Charges in Days} \times 1{,}000{,}000}{\text{Number of Man-Hours of Exposure}}$$

ACCIDENTS BY DISTRICTS

District	Mines Underground	Mines, Surface	Quarries-Pits	Mills-Plants-Smelters	Projects	Oil Wells
1	28	9	2	2	7	140
2	23	11	10	3	80	6
3	179	22	0	20	59	57
4	306	73	0	42	15	80
Totals	536	115	12	67	161	284

FATAL ACCIDENTS
MINES, UNDERGROUND

Date	Name	Employed by	Type of Accident
9-17-59	Cecil Dalton	Leon Whatley, lessee Uranium Miner	Mucking out a drift round with mucking machine. Wall slab came loose, pinning Dalton between machine and slab. Crushed between slab and machine.
9-29-59	Michael J. Woods	General Chemical Division of Allied Chemical & Dye Corp. Fluorspar Miners	Improperly constructed drill staging collapsed, causing Woods to fall 41 feet to his death. Fall of man.
10-23-59	Herman F. Piltz	Self employed Prospect and Development	Lighting 10 holes in the bottom of a 20 foot shaft, using 3 foot fuse. First hole detonated before spitting was complete. Improper blasting procedure.

12- 4-59	John Holtquist	Golden Cycle Corporation Gold miners	Rock loosened by drilling collapsed drill staging, causing Holtquist to fall some 100 feet to bottom of open stope. Fall of rock and man.
12-14-59	Miguel F. Trujillo	Idarado Mining Co. Lead, zinc, copper, gold, silver miners	Attempting to release a hung up chute with a blow pipe when the wet muck released, pushing Trujillo in the car and covering him with ore. Suffocation.

MINES, SURFACE

3-23-59	Clinton A. Mount	Smaller Mining Co. Uranium miners	Driving a loaded truck from a uranium pit. The truck stalled near the top and rolled backwards, turning over and throwing Mount out into 5 feet of water. Fractures and shock.
8- 4-59	George David Rogers	Neilson & Klingensmith Uranium miners	Driving a shuttle-buggy up an outside ramp to dump load in ore bin. Buggy skidded on wet ramp. Man and shuttle-buggy fell 15 feet to ground. Crushed by buggy.

QUARRY

6-18-59	Harry G. Rice	Castle Concrete Co.	Working as a shovel oiler on the blind side of the shovel operator. Operator swung the dipper, hitting Rice in the head. Skull fracture.

PROJECTS

5- 4-59	Frank J. Ayala	Colorado Constructors Inc.	Working in cut of a tunnel approach when a loose rock from the cut wall hit Ayala in the head. Skull fracture. Fall of rock.
5-30-59	Charles M. Ross	Walker Brothers Contractors	Operating a dozer on the slope of a highway cut. Dozer slipped sideways and turned over, crushing Ross.
12- 3-59	Jackson S. Hamilton	Bud King Construction Co.	Operating a bulldozer when same skidded sideways on a 17 degree slope on snow and frozen ground. Soft ground was encountered in the skid and the dozer turned over, crushing Hamilton.

OIL WELLS

3-11-59	James Thomas Murphy	Ashby Drilling Co.	Riding elevators when blocks caught on a girt, flipping Murphy off of the blocks, causing him to fall 31 feet to ground. Skull injury. Fall of man.
4-17-59	Robert Dale Bishop	Halliburton Oil Well and Cementing Co.	Strong wind or twister hit the rig on which Bishop was working. Rig collapsed, killing him instantly.

Tables of Accident Statistics

MINES, UNDERGROUND

Agency Causing Accident	Fatals	Temporary Injuries Loss of one day or more	
Atmosphere		2	
Bars—Bins—Chutes		7	
Belts—Conveyors—Pulleys		1	
Cables—Hose—Ropes		23	
Cars—Motors—Vehicles		83	
Chains—Gears—Sprockets		4	
Containers		4	
Chemicals		1	
Doors—Windows—Gates		1	
Drills—Drilling Equipment		23	
Dust and Particles		6	
Explosives—Transportation		2	
Explosives—Loading or Firing	1	3	
Electricity—Elec. Equipment		1	
Falls—Floor—Ice—Snow	1	29	
Falling or Flying Objects		5	
Flames—Fire—Hot Substances		1	
Hoists—Hoisting Apparatus		2	
Ladders—Manways		14	
Machinery—Tools		67	
Materials		2	
Metal Objects		45	
Platforms—Staging—Scaffolds		1	
Rock—Ore—Ground	3	149	
Screens		5	
Timber—Lumber—Poles		40	
Tracks		9	
Unclassified—Insufficient Data		1	
Totals	5	531	536

Type of Injury			
Burns—Shock	1	3	
Caught in or between		79	
Fall on same level		15	
Fall on different level	1	17	
Handling	1	95	
Inhalation—Suffocation		3	
Striking against—Struck by	2	271	
Slip—Stepping on		46	
Unclassified—Insufficient Data		2	
Totals	5	531	536

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Nature of Injury			
Foreign Bodies		25	
Cuts—Bruises—Lacerations—Punctures		291	
Strains—Sprains—Dislocations	1	145	
Hernia		7	
Fractures	3	82	
Amputation		6	
Burns—Scalds—Shock	1	3	
Nature Unknown		1	
Totals	5	560	565
Site of Injury			
Eyes		32	
Head—Face—Neck		33	
Trunk	1	159	
Upper Extremities		143	
Lower Extremities		178	
General	4	5	
Totals	5	550	555

MINES, SURFACE

Agency Causing Accident			
Cables—Hose—Ropes		6	
Cars—Motors—Vehicles	2	13	
Containers		10	
Drills—Drilling Equipment		13	
Dust and Particles		2	
Electricity—Elec. Equipment		1	
Falls—Floor—Ice—Snow		9	
Flames—Fire—Hot Substances		3	
Machinery—Tools		13	
Materials		3	
Metal Objects		18	
Platforms—Staging—Scaffolds		1	
Premature or Delayed Blast		3	
Rock—Ore—Ground		9	
Timber—Lumber—Poles		7	
Tongs		1	
Tracks		1	
Totals	2	113	115

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Type of Injury			
Burns—Shock	1	7	
Caught in or between		14	
Fall on same level		1	
Fall on different level		3	
Handling		35	
Inhalation—Suffocation		1	
Striking against—Struck by	1	45	
Slip—Stepping on		9	
Totals	2	115	117
Nature of Injury			
Foreign Bodies		2	
Cuts—Bruises—Lacerations—Punctures		62	
Strains—Sprains—Dislocations		35	
Fractures	2	17	
Burns—Scalds—Shock		9	
Totals	2	125	127
Site of Injury			
Eyes		8	
Head—Face—Neck	1	8	
Trunk		28	
Upper Extremities		34	
Lower Extremities		38	
General	1	2	
Unclassified—Insufficient Data		2	
Totals	2	120	122

QUARRIES

Agency Causing Accident			
Cars—Motors—Vehicles		2	
Drills—Drilling Equipment		1	
Falls—Floor—Ice—Snow		2	
Flames—Fire—Hot Substances		1	
Machinery—Tools	1	3	
Rock—Ore—Ground		2	
Totals	1	11	12

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Type of Injury			
Burns—Shock		1	
Caught in or between		2	
Fall on same level		1	
Handling		2	
Striking against—Struck by	1	4	
Slip—Stepping on		1	
Totals	1	11	12
Nature of Injury			
Cuts—Bruises—Lacerations—Punctures		6	
Strains—Sprains—Dislocations		2	
Fractures	1	4	
Burns—Scalds—Shock		1	
Totals	1	13	14
Site of Injury			
Head—Face—Neck	1	1	
Trunk		2	
Upper Extremities		2	
Lower Extremities		7	
General		1	
Totals	1	13	14

MILLS—PLANTS—SMELTERS

Agency Causing Accident			
Atmosphere		2	
Bars—Bins—Chutes		2	
Belts—Conveyors—Pulleys		2	
Cables—Hose—Ropes		1	
Cars—Motors—Vehicles		2	
Chains—Gears—Sprockets		1	
Containers		2	
Chemicals		2	
Dust and Particles		2	
Falls—Floor—Ice—Snow		7	
Falling or Flying Objects		1	
Flames—Fire—Hot Substances		5	
Hoists—Hoisting Apparatus		1	
Ladders—Manways		2	
Machinery—Tools		14	

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more
Materials		4
Metal Objects		9
Rock—Ore—Ground		6
Tanks		1
Timber—Lumber—Poles		1
Total		67
Type of Injury		
Burns—Shock		4
Caught in or between		5
Fall on same level		1
Fall on different level		8
Handling		16
Inhalation—Suffocation		10
Striking against—Struck by		21
Slip—Stepping on		3
Total		68
Nature of Injury		
Foreign Bodies		7
Cuts—Bruises—Lacerations—Punctures		22
Strains—Sprains—Dislocations		18
Hernia		12
Fractures		7
Amputation		1
Burns—Scalds—Shock		4
Occupational Diseases		3
Nature Unknown		1
Total		75
Site of Injury		
Eyes		6
Head—Face—Neck		12
Trunk		18
Upper Extremities		13
Lower Extremities		12
General		10
Total		71

TABLES OF ACCIDENT STATISTICS—(Continued)

PROJECTS

Agency Causing Accident	Fatals	Temporary Injuries Loss of one day or more	
Atmosphere		1	
Bars—Bins—Chutes		3	
Cables—Hose—Ropes		2	
Cars—Motors—Vehicles		19	
Chains—Gears—Sprockets		1	
Containers		1	
Chemicals		2	
Doors—Windows—Gates		1	
Drills—Drilling Equipment		8	
Dust and Particles		2	
Explosives—Loading or Firing		2	
Electricity—Elec. Equipment		1	
Falls—Floor—Ice—Snow		7	
Falling or Flying Objects		1	
Machinery—Tools	2	13	
Materials		11	
Metal Objects		31	
Rock—Ore—Ground	1	38	
Timber—Lumber—Poles		7	
Tracks		7	
Totals	3	158	161

Type of Injury	Fatals	Temporary Injuries Loss of one day or more	
Burns—Shock		7	
Caught in or between		20	
Fall on same level		4	
Fall on different level		5	
Handling		26	
Inhalation—Suffocation		1	
Striking against—Struck by	3	85	
Slip—Stepping on		11	
Totals	3	159	161

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Nature of Injury			
Foreign Bodies		12	
Cuts—Bruises—Lacerations—Punctures		87	
Strains—Sprains—Dislocations		33	
Hernia		3	
Fractures	3	23	
Amputation		3	
Burns—Scalds—Shock		7	
Totals	3	168	171
Site of Injury			
Eyes		20	
Head—Face—Neck	1	20	
Trunk		37	
Upper Extremities		38	
Lower Extremities		48	
General	2	3	
Unclassified—Insufficient Data		1	
Totals	3	167	170

OIL WELLS

Agency Causing Accident		
Atmosphere		1
Bars—Bins—Chutes		2
Belts—Conveyors—Pulleys		2
Cables—Hose—Ropes		4
Cars—Motors—Vehicles		8
Chains—Gears—Sprockets		12
Containers		2
Chemicals		2
Derricks—Headframes	1	2
Drills—Drilling Equipment	1	61
Dust and Particles		3
Falls—Floor—Ice—Snow		23
Flames—Fire—Hot Substances		15
Ladders—Manways		1
Machinery—Tools		14
Materials		1
Metal Objects		81

TABLES OF ACCIDENT STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Platforms—Staging—Scaffolds		5	
Rock—Ore—Ground		5	
Timber—Lumber—Poles		5	
Tongs		30	
Unclassified—Insufficient Data		3	
Totals	2	282	284
Type of Injury			
Burns—Shock		15	
Caught in or between		55	
Fall on same level		6	
Fall on different level	1	14	
Handling		42	
Inhalation—Suffocation		1	
Striking against—Struck by	1	124	
Slip—Stepping on		22	
Unclassified—Insufficient Data		2	
Totals	2	281	283
Nature of Injury			
Foreign Bodies		8	
Cuts—Bruises—Lacerations—Punctures		140	
Strains—Sprains—Dislocations		50	
Hernia		2	
Fractures	2	66	
Amputation		8	
Burns—Scalds—Shock		19	
Nature Unknown		4	
Totals	2	297	299
Site of Injury			
Eyes		10	
Head—Face—Neck	1	30	
Trunk		68	
Upper Extremities		109	
Lower Extremities		81	
General	1	2	
Unclassified—Insufficient Data		4	
Totals	2	304	306

Men Employed

Consolidation of some of the smaller uranium mines during the year was responsible for showing a decrease of forty-four active mines in 1959 and an increase of seventy-one men engaged in underground mining. More men were employed in plants and fewer men were employed in the petroleum industry.

An increase of fifty-six men over the total of 14,748 men employed in the mineral industry in 1958, is indicative of the even amount of activity during the last two years. Low base metal prices and fixed precious metal prices were responsible for stalemated activity in these industries. Completion of some reclamation projects, with no new starts, was responsible for a lowered employment in this division.

	Mines[1]		Mills, Plants, Smelters		Quarries & Pits		Placers[2]		Projects	Oil Wells	Totals
	No.	Men	No.	Men	No.	Men	No.	Men	Men	Men	Men
District 1	87	349	27	364	42	224	10	186	367	1,220	2,710
District 2	41	270	5	176	16	144	2	206	154	310	1,260
District 3	40	1,793	17	1,393	13	71	3	145	813	840	5,055
District 4	424	2,899	13	1,562	1	5	2	178	755	380	5,779
Totals	592	5,311	62	3,495	72	444	17	715	2,089	2,750	14,804

[1] Mines include both metallic and nonmetallic

[2] Placers include sand and gravel operations and peat bogs

TOTAL MEN EMPLOYED

	Underground	Surface	Oil Wells	Totals
District 1	258	1,232	1,220	2,710
District 2	302	648	310	1,260
District 3	1,565	2,650	840	5,055
District 4	2,069	3,330	380	5,779
Totals	4,194	7,860	2,750	14,804

MEN EMPLOYED IN

Gold, Silver Copper, Lead, Zinc	Molybdenum	Uranium	Oil Wells	Other	Total
1,000	1,875	5,200	2,750	3,979	14,804

DIVISION OF OPERATIONS

Base and Precious Metal Mines	41
Uranium Mines	495
Other Mines	100

First Aid Training

During the year 602 individuals representing the mining industry of the State were trained in first aid.

Inspections

A small reduction in the number of active mineral operations along with an increase of 114 complete inspections made over 1958, reflects more duplicate or follow-up inspection of operating properties. It is also an indication that more time for inspections has been made available through the use of our new Inspection Report which was inaugurated in July of 1959. Our four district inspectors and two deputy inspectors were active all year and inspected all known operating properties and oil wells as many times as time permitted. In addition to these inspections, many extra calls were made at properties for the purpose of consultation and instruction.

INSPECTIONS

Made By

1959	District 1 Blake	District 2 Theobald	District 3 Doyle & Keating	District 4 Ray & Pakka	Totals
January	30	6	41	41	118
February	15	4	11	40	70
March	18	10	26	50	104
April	36		46	31	113
May	14	13	21	36	84
June	20		47	58	125
July	32	12	44	45	133
August	15	14	32	29	90
September	13	4	46	38	101
October	27	2	33	73	135
November	36	6	17	43	102
December	34	5	9	49	97
Totals	290	76	373	533	1,272

	Mines	Quarries & Pits	Mills, Plants & Smelters	Placers	Projects	Oil Wells	Totals
District 1	92	55	36	6	9	92	290
District 2	39	14	4	2	2	15	76
District 3	103	25	44		38	163	373
District 4	451	2	19	1	29	31	533
Totals	685	96	103	9	78	301	1,272

Information Reports

A total of 672 separate Information Reports were submitted by the inspectors during 1959. These reports contain information on the ownership and the operating company as well as operational procedures. They are permanently filed in the Bureau of Mines office and are so outlined as to give anyone seeking information on a particular mineral operation, all of the pertinent facts concerning the operation and the size and area of the workings. They are particularly valuable to those contemplating reopening of old properties. Their information on underground workings is in many cases the only data of this type available.

INFORMATION REPORTS

Made By

1959	District 1 Blake	District 2 Theobald	District 3 Doyle & Keating	District 4 Ray & Pakka	Totals
January	8		7	38	53
February	2		1	22	25
March	1			54	55
April	7	17	4	27	55
May	3		4	43	50
June	10	12	1	58	81
July	10		9	39	58
August	23	26	17	24	90
September	6	14	3	37	60
October	8			22	30
November		5	4	20	29
December	35		2	49	86
Totals	113	74	52	433	672

	Mines	Quarries & Pits	Mills, Plants & Smelters	Placers	Projects	Oil Wells	Totals
District 1	61	26	16	6	1	3	113
District 2	37	27	3	2	2	3	74
District 3	28	2	5		2	15	52
District 4	407	2	12	1	10	1	433
Totals	533	57	36	9	15	22	672

TOTAL INSPECTION AND INFORMATION REPORTS SUBMITTED

District 1	District 2	District 3	District 4	Total
403	150	425	966	1,944

Mineral Operations by County in Colorado

ADAMS COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Cooley North Plant	Denver	Cooley Gravel Co., 6101 Lowell Blvd., Denver 11	Sand, Gravel	Plant
Inland Plant	Derby	Inland Sand & Gravel, 7620 Madison St., Derby	Sand, Gravel	Plant
Plant Nos. 8 & 10	Denver	Brannan Sand & Gravel, 4800 Brighton Blvd., Denver 16	Sand, Gravel	Plant
Pit R	Denver	Brannan Sand & Gravel, 4800 Brighton Blvd., Denver 16	Sand, Gravel	Plant

ARAPAHOE COUNTY

Cooley South Plant	Englewood	Cooley Gravel Co., 6101 Lowell Blvd., Denver 11	Sand, Gravel	Plant

BACA COUNTY

Ada	Utleyville	Carrizo Enterprises, Inc., Box 131, Springfield	Copper	Mine

BOULDER COUNTY

Beaver Lake	Beaver Dam Lake	Beaver Lake Peat Co., 2902 6th St., Boulder	Peat	Peat Bog
Blue Bird	Grand Island	Blue Bird Mines, Box 397, Nederland	Gold, Silver, Lead	Mine
Blue Stone Lode	Grand Island	R. E. Clarida & W. L. Stephenson, 3120 W. Arizona, Denver 19	Gold, Silver	Mine
Boulder County Tunnel	Grand Island	H. W. Low Estate, 4882 Elm Court, Denver	Gold	Mine
Brodies St. Vrain	Lyons	Ken Brodie, Lyons	Stone	Quarry
Burlington	Jamestown	Allied Chemical Corp., General Chemical Division, Box 228, Boulder	Fluorspar	Mine
Carrol Gore	Beach Hill	Loukenen Bros. Stone Co., Box 865, Lyons	Stone	Quarry
Cash	Gold Hill	Utex Exploration Co., Moab, Utah	Gold	Mine
Fair Day	Jamestown	La Salle Mining Co., Box 217, Grand Junction	Uranium	Mine
Gladstone & Gladstone Fraction	Jamestown	Ralston, Johnson Bros., & Overly 500 Grand Ave., Boulder	Fluorspar	Mine
Golden Princess	Left Hand Canyon	Mountain Top Mining Co., 117 East 17th St., Cheyenne, Wyo.	Gold, Silver	Mine
Green Thumb	Nederland	D. K. Shore, RR Cherryville Road, Boulder	Peat	Peat Bog
Hammons	Lyons	Sterling Contracting Co., Box 124, Lyons	Stone	Quarry
Harms Peat Bog	Ward	W. F. Harms, Ward	Peat	Peat Bog

BOULDER COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Idaho Tunnel & Caribou Mine	Caribou	Nederland Mines, Inc., 1821 Marine St., Boulder	Gold, Silver, Lead, Zinc	Mine
Keystone	Magnolia	Camera Land Colorado, Inc., 1157 Adams St., c/o John Coats, Agent, Denver	Gold	Mine
Knowland	Lyons	Sterling Contracting Co., Box 124, Lyons	Stone	Quarry
Landau	Lyons	Sterling Contracting Co., Box 124, Lyons	Stone	Quarry
McCall	Lyons	McCall Quarries, 9648 W. 56th Place, Arvada	Stone	Quarry
Marion	Sugar Loaf Road	Earl G. Sweeney, 1061 Grant, Boulder	Thorium	Mill
Mud Lake	Nederland	Scruggs Peat Moss, 510 Maxwell, Boulder	Peat	Peat Bog
Nederland	Sugar Loaf	Nederland Mines, Inc., 1821 Marine St., Boulder	Gold, Lead, Silver, Zinc	Mill
Pfiefer	Lyons	Pfiefer Stone Cutting Co., Lyons	Stone	Quarry
Pit Nos. 1 & 2	Eldorado Springs	Eldorado Clay Co., Rt. 1, Box 759, Lyons	Clay	Mine
Rex	Summerville	Utex Exploration Co., Moab, Utah	Gold, Silver	Mine
Rusty Dime	Magnolia	Eastern Slope Multi-Metals Corp., c/o Dr. J. M. Gray, 317 Metro Bldg., St. Louis, Missouri	Gold	Mine
St Vrain	Lyons	Sterling Contracting Co., Box 124, Lyons	Stone	Quarry
Spicer	Rocky Flats	Colorado Brick Co., Box 727, Longmont	Clay	Mine
Stockton & Perkins	Lyons	Loukenen Bros. Stone Co., Box 865, Lyons	Stone	Quarry
Tungsten	Grand Island	Tungsten Mining Co., 420 Pine St., Boulder	Tungsten	Mine
Valmont	Valmont	Allied Chemical Corp., General Chemical Division, Box 228, Boulder	Fluorspar	Plant
White Raven	Ward	White Raven Mining Co., 2000 Marine St., Boulder	Gold, Silver, Lead, Copper	Mine

CHAFFEE COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Antero	Salida	Antero Refining Co., Box 550, Salida	Beryl	Mill
Bailey	Salida	Bailey Mfg. Co., Box 426, Salida	Calcium	Plant
Betsy	Granite	Canon City Materials Corp., Box 709, Salida	Gold	Placer
Bonus Extension	Longs Gulch	Beryllium Corp. of America, Box 1676, Denver 1	Beryllium	Quarry
Cache Creek	Granite	Granite Gold Mineral Corp., Granite	Gold	Placer
Calcium	Ute Trail	Bill & Bud Trucking, 531 E St., Salida	Calcium	Quarry
Crystal Placer	Ute Trail	Colorado Granite Co., Salida	Granite	Quarry
Gold Bottom Placer	Granite	Denver Centennial Mining Co., Inc., 2787 So. King St., Denver	Gold	Placer

Gold Eagle	Salida	Anschutz Drilling Co., 1411 Mile High Center, Denver	Gold, Silver, Lead, Zinc	Mine
Homestake (Soda Spar)	Ute Trail	The M & S Inc., Box 671, Salida	Feldspar	Quarry
Iowa	Turret	Michael C. Marasco, Box 332, Salida	Exploration	Quarry
Josephine Lode	Buena Vista	Josephine Lode & Development Co., 1232 N. Nevada Ave., Colorado Springs	Silver, Lead	Mine
Last Chance	Salida	Colorado Granite Co., Salida	Granite	Quarry
Longyear Master Rig	Twin Lakes	E. J. Longyear Co., 76 So. 8th St., Minneapolis, Minnesota	Core Drilling	
Mica Mill	Turret	Mica Minerals Inc., 1501 "H" St., Salida	Mica	Plant
Monarch Lime Quarry	Monarch Pass	The Colorado Fuel & Iron Corp., Box 316, Pueblo	Limestone	Quarry
Sedalia Crushing	Salida	The Colorado Ore Reduction Works, Box 920, Canon City	Copper	Plant
Sedalia	Salida	The Colorado Ore Reduction Works, Box 920, Canon City	Copper	Mine
Stonewall	Buena Vista	Ralph Russell, Leadville	Sulphide, Silver, Lead, Zinc	Mine
U. G. Straight Line Rig	Twin Lakes	E. J. Longyear Co., 76 So. 8th St., Minneapolis, Minnesota	Core Drilling	
Western Feldspar Mill	Salida	Western Feldspar Milling Co., Box 671, Salida	Feldspar	Mill

CLEAR CREEK COUNTY

Alma Lincoln	Spanish Bar	Alma Lincoln Mining Co., Idaho Springs	Tourist	Mine
Anon	Spanish Bar	South Western Minerals Corp., **704** Jefferson, Mendota, Illinois	Uranium	Mine
Ashland	Virginia Canyon	Larson, Young & Kingery, Box 716, Idaho, Springs	Gold, Silver, Lead	Mine
Baby Eddie (Crazy Girl Tunnel)	Spring Gulch	Rhine Mackey Mines, 2550 Yarrow St., Denver 15	Silver, Lead	Mine
Bald Eagle	Virginia Canyon	Jack Pot Oil Co., 300 Travel Center Bldg., Denver 2	Gold, Lead, Copper, Zinc	Mine
Centennial Tunnel	Virginia Canyon	Anthony V. Madonna , 1899 Allison, Lakewood	Gold	Mine
Central or Big Five	Idaho Springs	Clear Creek Mining Co., 1727 Boulder, Denver 11	Gold, Silver, Lead, Zinc, Copper	Mine
Dixie	Ute Creek	Vicon, Inc., Exchange National Bank Bldg., Colorado Springs	Gold, Silver	Mine
Drummond	Lawson	Drummond Mines, c/o J. B. Traynor, 512 Skyline, Ft. Collins	Silver, Lead, Zinc	Mine
Franklin	Gilson Gulch	Franklin Silver Age Mining Co., c/o A. E. Burns, Wilson, Kansas	Silver, Lead	Mine
Front Range Mill	Dumont	Front Range Mines, Inc., Box 704, Idaho Springs	Gold, Silver, Lead, Zinc, Copper	Mill
Grover	Beaver Brook Canyon	Joe Grover, Evergreen	Mica, Beryl, Spar	Mine
Harrison	Trail Creek	George & Walcott, Idaho Springs	Gold	Mine
Hot Pot	Virginia Canyon	Fall River Exploration & Mining Co., Box 32, Idaho Springs	Gold, Silver, Lead, Copper	Mine

CLEAR CREEK COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Hudson	Virginia Canyon	Louis Toney & Associates, 4490 Lincoln St., Denver	Silver, Lead	Mine
King Cyrus Nos. 1 & 2	Spanish Bar	Lyle B. McNulty, 7505 Clay St., Westminster	Tourist	Mine
Kitty Clyde	Spring Gulch	Maverick Mining Co., Box 101, Idaho Springs	Gold, Silver, Lead, Copper	Mine
Lena	Virginia Canyon	Hayes & Maddox, 2420 California, Denver 5	Gold, Lead, Silver	Mine
Lone Star No. 6	Clear Creek	Lone Star Mining Co., Box 6, Idaho Springs	Uranium	Mine
Lucania	Virginia Canyon	Fall River Exploration & Mining Co., Box 32, Idaho Springs	Gold, Silver, Lead	Mine
Miami Tunnel (Edgar)	Idaho Springs	Colorado School of Mines, Golden	Instruction	Mine
Mill Creek	Dumont	Eichinger, Morse & Roberts, Box 636, Idaho Springs	Gold, Silver, Lead, Zinc	Mill
Mint	Empire	Mint Mines, Box 113, Empire	Gold, Silver	Mine
Payne Tunnel	Empire	Ed Riddle, Inc., Box 174, Empire	Gold	Mine
Princess	Lawson	Frank J. Moskal, 4216 W. 25th Place, Chicago 23, Illinois	Gold, Silver, Lead	Mine
Roote Ranch	Gilson Gulch	Lee Morgan & Associates, Box 873, Idaho Springs	Uranium	Mine
Silver Spruce	Idaho Springs	Clear Creek Mining Co., 1727 Boulder St., Denver	Gold, Silver, Lead, Zinc	Mill
Star Tunnel	Chicago Creek	Robert H. Heidersback, Jr., 811 Milwaukee St., Denver	Tourist	Mine
Yellow Metals & Fortune	Idaho Springs	South Western Minerals Corp., 1404 Hudson St., Denver 20	Gold, Silver, Copper	Mine

COSTILLA COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Mesita Hill Quarry & Crusher	Mesita	Colorado Aggregate, Inc., Mesita	Volcanic Scoria	Quarry

CUSTER COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Buckeye-Holt	Ophir Creek	Decker & Eisenhour, Wetmore	Gold	Mine
Crestone	Colony Creek	The Crestone Co., Box 87, Westcliffe, Leasure & Stabb, Westcliffe	Uranium	Mine
Golden Splendor	Silver Cliff	Calico Minerals, Inc., 31 Carrol St., Vallejo, California	Thorium	Mine
Lawson	Wetmore	Ralph Pierce, Canon City	Clay	Mine
Lodge Pole No. 1	Ophir Creek	Charles & Lyman Akin, Rye	Gold, Lead, Copper	Mine
Pioneer	Rosita	S.N.N. Mining Co., Inc., Box 732, Cheyenne, Wyo.	Silver	Mine
Tomboy	Ophir Creek	Charles & Lyman Akin, Rye	Gold	Mine

DENVER COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Denver Works	Denver	Allied Chemical Corp., General Chemical Division, Box 4040 South Denver Station, Denver	Sulphuric Acid	Plant
Globe Plant	Globeville	American Smelting & Refining Co., 495 East 51st Avenue, Denver 16	Cadmium	Plant

DOLORES COUNTY

Barlow Claims Nos. 1, 2, 3, 4, 5, 6	Barlow Creek	Vanadium Corp. of America, Durango	Uranium & Vanadium	Mine
Mountain Springs	Rico	Rico Argentine Mining Co., Rico	Iron, Silver, Lead, Zinc	Mine
Nutmeg	Rico	Rico Argentine Mining Co., Rico	Iron, Silver, Lead, Zinc	Mine
Rico Acid Plant	Rico	Rico Argentine Mining Co., Rico	Sulphuric Acid	Plant
Rico Argentine Mill	Rico	Rico Argentine Mining Co., Rico	Iron, Lead, Zinc	Mill
St. Louis & Iron Clad	Rico	Jones Brothers, Rico	Gold	Mine
St. Louis Tunnel	Rico	Rico Argentine Mining Co., Rico	Lead, Iron, Zinc, Pyrites	Mine

DOUGLAS COUNTY

Helmer Lime Quarry	Littleton	T. L. Helmer, Rt. 1, Box 94, Littleton	Limestone	Quarry
Helmer Sand Quarry	Littleton	T. L. Helmer, Rt. 1, Box 94, Littleton	Sandstone	Quarry
Hogback Nos. 2 & 3	Waterton	Robinson Brick Co., 500 So. Santa Fe, Denver 23	Clay	Mine
Ringenberg	Littleton	Denver Brick & Pipe Co., Box 2329, Denver	Clay	Mine
Stevens Ranch	Castle Rock	Stroud Whisenhunt, Castle Rock	Clay	Mine
Waterton Sand & Clay	Waterton	Waterton & Clay, 2635 So. Sherman St., Denver	Sand & Clay	Plant

EAGLE COUNTY

Dotsero	Dotsero	Ideal Lava Products Co., Box 309, Glenwood Springs	Pumice	Quarry
Eagle Mines	Gilman	Empire Zinc Co., Gilman	Gold, Silver, Lead, Zinc	Mine
Empire Zinc Mill	Gilman	Empire Zinc Co., Gilman	Lead, Zinc	Mill
Range Gypsum	Dotsero	J. R. Simplot Co., Box 2777, Boise, Idaho	Drilling	Quarry
Roaring Fork	Glenwood Springs	E. H. Bone, Rt. 1, Carbondale	Pumice	Quarry

EL PASO COUNTY

Castle	Colorado Springs	Castle Concrete Co, Box 2462, Colorado Springs	Concrete Aggregate	Quarry
Kathryn No. 2	S.E. Ft. Carson	Cliff & Creek Mining Co., 320 Mining Exchange, Colorado Springs	Uranium	Mine
Lennox Breed	Colorado Springs	Colorado Materials Co., Box 183, Colorado Springs	Concrete Aggregate	Quarry
Rampart Range	Colorado Springs	Dan Foster, 1107 Montrose Ave., Colorado Springs Arthur Nichols, Lytle Star Route, Colorado Springs	Limestone	Quarry

FREMONT COUNTY

Brandt Property	Canon City	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Calcite Quarry	Howard	Colorado Limestone Co., Howard	Limestone	Quarry
Canon Dolomite	Canon City	Colorado Fuel & Iron Co., Pueblo	Dolomite	Quarry
Coaldale	Coaldale	Fibreboard Paper Products Co., Box 269, Florence	Gypsum	Plant & Quarry

FREMONT COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Cowan Bros.	Canon City	Cowan Bros., 227 Main St., Canon City	Travertine	Quarry
Empire Zinc Plant	Canon City	Empire Zinc Co., Division of New Jersey Zinc Co., Canon City	Zinc	Plant
English	Wellsville	Colonna & Co., Inc. of Colo., Canon City	Marble	Quarry
First Chance	Tallahassee	Canon Development Co., Box 350, Canon City	Uranium	Mine
Joan	Tallahassee	Seacol Inc., 910 Greenwood, Canon City Smaller Mining Co., Canon City	Uranium	Mine
Last Chance	Tallahassee	Gunnison Mining Co., Box 531, Gunnison	Uranium	Mine
Mica Lode	Royal Gorge Park	Lockhart & Ellis, Canon City	White Quartz	Quarry
Phantom Canyon	Beaver Creek Road	George Stroup, Canon City	Clay	Mine
Portland	Portland	Ideal Cement Corp., Portland	Limestone	Quarry
Salt Canyon	Salt Canyon	Ralph Pierce & H. K. Porter, Inc., Refractories Division, Box 110, Canon City	Clay	Mine
School Section 36	Tallahassee	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Taylor Gulch Quarry	Taylor Gulch	Frank H. Norberg Co., 703 Guaranty Bank Bldg., Denver	Limestone	Quarry
Thunder Mountain Quarry	Wellsville	U. S. Soil Conditioning Corp., Salida	Gypsum	Quarry
U308 Carbonate Leach Plant	Canon City	Cotter Corp., Box 751, Canon City	Uranium	Mill
Williams	Tallahassee	Logan E. Shelhamer, 7th & Hazel St., Canon City	Uranium	Mine

GARFIELD COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Glenwood Springs Lime Quarry	Glenwood Springs	Frank H. Norberg Co., 703 Guaranty Bank Bldg., Denver 2	Limestone	Quarry
Rifle Mill	Rifle	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mill

GILPIN COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Angeline Lode	Hawk Eye	Marie W. Rushworth, 1251 S. Corona St., Denver	Gold, Silver	Mine
B & M No. 1	Perigo	Bee Vee Mines, Box 418, Georgetown	Gold	Mine
Bob Tail Tunnel	Black Hawk	Gus Bakos & Robert Hollenback, Black Hawk	Tourist	Mine
Boodle	Central City	A.K.S. Mining & Milling Co., Box 173, Black Hawk	Gold, Silver, Lead	Mill
Braecher Ranch	Black Hawk	Colorado Peat, Inc., Rt. 2, Box 79, Golden	Peat	Peat Bog
Carrol	Quartz Valley	Kathy Lou Mining Corp., Central City	Uranium, Lead	Mine

Cyclops	Black Hawk	South Western Minerals Corp., Lakewood	Silver	Mine
Durand Brothers Placer	Gilpin	Durand Brothers, 935 S. Patton Court Denver	Gold	Placer
Evergreen	Apex	C. W. Bashor, 4512 Yates St., Denver	Copper	Mine
Fanny	Black Hawk	Clifford Esterday, La Moille, Illinois	Silver	Mine
Fools Luck	Missouri Gulch	Earl & Allen Smith, Evergreen	Gold	Placer
Glory Hole	Central City	Glory Hole, Inc., Central City	Gold, Silver, Lead, Zinc, Copper	Mill
Gold Nugget	Bay State	Wm. C. Spitts, 329 S. Pearl St., Denver	Gold, Tourist	Mine
Gold Rock, Rotechield and Pocahontas	Silver Lake	Paul J. Janes, 1010 Grand Ave., So. San Francisco	Gold, Silver	Mine
Golden Cycle	Gamble Gulch	Altvater & Fraser, 4630 Quitman St., Denver 12	Gold, Silver, Copper	Mine
Hayes & Wheeler	Central City	Hayes Wheeler Syndicate, 4755 Newton St., Denver 21	Gold, Silver, Lead, Copper, Zinc	Mine
Huddleson (Toll Gate)	Black Hawk	Mike McNulty, Black Hawk	Tourist	Mine
Little Colonel	Black Hawk	Black Hawk Trading Post, Black Hawk	Tourist	Mine
Margie Mill (Soda Lake)	Fairfield	Dan Kelly, Idaho Springs	Gold, Silver, Copper	Mine
National Bank Lode (Lost Gold)	Central City	Faye Clapham, Central City	Tourist	Mine
Nellie Bee Group	Miner's Gulch	Lee Morgan & Associates, Box 873, Idaho Springs	Uranium	Mine
Philadelphia	Freeman Gulch	Chas. A. Slusher, Rt. 2, Box 413, Arvada	Gold, Silver, Lead	Mine
Quartz Hill Tunnel	Nevada Gulch	Glory Hole, Inc., Central City	Gold, Silver, Lead, Zinc, Copper	Mine
Rudolph Ranch	Black Hawk	Gus Rudolph, Black Hawk	Peat	Peat Bog
San Souci	Black Hawk	A. K. S. Mining & Milling Co., Box 173, Black Hawk	Lead, Zinc	Mine
Vanderbilt Lode (Diamond Lil)	Central City	Central Gold Mine & Mining Museum, Box 161, Central City	Gold, Silver, Copper, Tourist	Mine
Velvet Valley	Hawk Eye	Rainbow Mines, 1040 W. 14th Ave., Denver 4	Gold	Mine
Web Foot	Apex	Eastern Slope Multi-Metals Corp., 317 Metro Bldg., St. Louis 3, Missouri	Uranium	Mine
We-Got-Em	Silver Lake	Garrick & Ellison, Central City	Gold, Silver, Copper	Mine
White House	Mosquito Gulch	White House Mining Co., 1224 Glencoe St., Denver	Gold	Mine
Wilma	Apex	Nye Mathews, Inc., Black Hawk	Molybdenum	Mine
Zacher	Black Hawk	Ralph Zacher, Black Hawk	Gold	Placer

GRAND COUNTY

Williams Fork Dam	Parshall	Mountain States Construction Co., Box 116, Hot Sulphur Springs	Project	Dam

GUNNISON COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Atlas	Crested Butte	Gold Crest Mining & Milling Co., Crested Butte	Gold, Silver, Lead	Mill
Baxter & Skyline No 1	Washington Gulch	Gold Crest Mining & Milling Co., Crested Butte	Gold, Silver, Lead	Mine
Big Red	No Name Gulch	John & Henry Carey, 334 E. 1st., Salida	Uranium	Mine
Carter	Gold Creek	O. A. Sutton, 407 Ins. Bldg, Wichita, Kansas	Gold, Silver, Lead, Copper Zinc	Mine
Forest Queen	Kebler Pass	Forest Queen Mines, Crested Butte	Silver	Mine
Gold Links	Gold Creek	Kraft & Associates, 635 Hawthorne, Boulder Revenue Metals Mines Corp., 2656 4th St., Boulder	Gold, Silver, Lead	Mine
Grey Falcon & Green Hawk	Willow Creek	H. E. Hancock, Pitkin	Beryl	Mine
Gunnison Mill	Gunnison	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mill
Hot Rock Group	Tineup	Hugh Corrigan, Tincup	Silver, Lead	Mine
Independent, Star-X-10-U-8	Tincup	John Lambertson, Box 567, Gunnison	Gold, Silver, Lead	Mine
June Bug	Hall Gulch	Carl Kinsey, Rt. 1, Box 223, Montrose	Silver, Lead	Mine
Keystone	Elk Mountain	American Smelting & Refining Co., Crested Butte	Gold, Silver, Lead, Copper, Zinc	Mine
Little Indian No. 36	Indian Creek	Pinnacle Exploration, Inc., Gunnison	Uranium	Mine
Matchless	Taylor Reservoir	K. M. & D. K. Andrews, Nucla	Uranium	Mine
Micawber	Elk Creek	Standard Uranium Corp., Box 872, Gunnison	Gold, Silver, Lead, Copper Zinc	Mine
Monte Carlo	Ohio Creek	O. A. Sutton, 407 Ins. Bldg., Wichita, Kansas	Gold, Silver, Lead	Mine
Napoleon	Graphite Creek	Edna Exploration Co., 720 S. 4th St., Montrose	Zinc	Mine
North Star	Dutchman Gulch	Templeton & Campbell, Box 22, Nucla	Uranium	Mine
Paonia Dam	Muddy Creek	Bud King Construction Co., Missoula, Montana		Dam
Paonia Tunnel	Muddy Creek	Bud King Construction Co., Missoula, Montana Mountain States Construction Co., 980 Simms, Golden		Tunnel
Silver Spruce	Rustlers Gulch	Mike Hildreth, Gunnison	Silver	Mine
Titan	Powderhorn	H. O. Aaberg, Box 276, Broomfield	Vermiculite	Mine

HINSDALE COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Pelican	Hensen Creek	Col-Tex Mining & Development Co., Lake City	Gold, Silver, Lead, Zinc	Mine

JACKSON COUNTY

North Gate Mine	Cowdrey	Ozark-Mahoning Mining Co., Cowdrey	Fluorspar	Mine
North Gate Mill	Cowdrey	Ozark-Mahoning Mining Co., Cowdrey	Fluorspar	Mill

JEFFERSON COUNTY

Ascension	Golden	Yellow Queen Uranium Co., 850 Reed St., Lakewood	Uranium	Mine
Augusta	Evergreen	Augusta Mines, Box 873, Idaho Springs Lloyd Keller, Evergreen	Copper, Fluorspar	Mine
Beryl Ores	Arvada	Beryl Ores Co., Rt. 1, Box 105, Arvada	Beryl, Mica	Plant
Black Silica	Golden	Denver Fire Clay Co., 3033 Blake St., Denver	Silica, Fire Clay	Mine
Caldwell Quarry	Plainview	Denver Sewer Pipe & Clay Co., 4501 Fox St., Denver 16	Clay	Quarry
Cass Quarry	Golden	Haven Excavating, 6780 W. 68th, Arvada	Rip Rap	Quarry
Cervi Lease	Golden Gate Canyon	Arthur A. Cervi, 979 Miller St., Lakewood	Uranium	Mine
Church	Rocky Flats	Wesley D. Conda, Rt. 1, Box 110, Boulder	Clay	Quarry
Columbine	Evergreen	Robert E. Harper, 820 Osceola St., Denver	Copper, Fluorspar	Mine
Foothills	Idledale	Foothills Mining Co., 3240 6th St., Boulder Cotter Corp., Box 751, Canon City	Uranium	Mine
Grapevine	Idledale	Grapevine Mining Co., Inc., Morrison	Uranium	Mine
Green Mountain Quarry	Golden	George W. Parfet Estate, Inc., Box 226, Golden	Clay	Quarry
Harvey	Rocky Flats	John L. Harvey, 2970 Zenobia St., Denver 12	Clay	Quarry
Lariat	Waterton	Robinson Brick & Tile Co., 500 S. Santa Fe, Denver	Clay	Mine
Lindsay Buff Clay	Golden	Lakewood Brick & Tile Co., 1325 Jay St., Lakewood	Clay	Mine
Lindsay Red Clay	Golden	Lakewood Brick & Tile Co., 1325 Jay St., Lakewood	Clay	Mine
Little Brother	Golden	H. & G. Mining Co., 6901 Lee, Arvada	Uranium	Mine
Mann No. 1	Soda Lake	Uranium Enterprises, Inc., 310 S. 40th St., Boulder	Uranium	Mine
Mena	Ralston Creek	Joseph W. Walsh, 4925 Montview Blvd., Denver 7	Uranium	Mine
Nare	Golden Gate Canyon	L. D. Ohman, 800 Bonnie Brae Blvd., Denver 9	Uranium	Mine
North Chieftain	Denver	Robinson Brick & Tile Co., 500 S. Santa Fe, Denver	Clay	Mine
North Golden	Golden	Denver Fire Clay Co., 3033 Blake St., Denver 5	Clay	Mine

JEFFERSON COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Pattridge	Golden	Expanded Shale Products, Inc., Rt. 1, Box 199A, Golden	Shale	Quarry
Pit No. 11	Ward Road	Brannan Sand & Gravel Co., 4800 Brighton Blvd., Denver.	Sand, Gravel	Plant
Rio Grande Gravel Co.	Golden	Rio Grande Gravel Co., 123 Santa Fe Dr., Denver 23	Sand, Gravel	Mill
Rockwell	Golden	George W. Parfet Estate, Inc., Box 226, Golden	Clay	Mine
Rubey	Golden	Rubey Clay Co., Box 226, Golden	Clay	Mine
Schwartzwalder	Ralston Creek	Denver Golden Corp., 1820 1st Nat'l Bank Bldg., Denver 2	Uranium	Mine
South Chieftain	Golden	Robinson Brick & Tile Co., 500 So. Santa Fe, Denver 23	Clay	Mine
Seven Devils	Waterton	Continental Materials Corp., 7469 W. 12th Ave., Lakewood	Uranium	Mine
State Quarry	Rocky Flats	Colorado Brick Co., Longmont	Clay	Quarry

LAKE COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Arkansas Valley Plant	Leadville	American Smelting & Refining Co., 495 E. 51st Ave., Denver 16	Lead	Smelter
Bald Town Placer	Leadville	Harry Nylene, Box 295, Leadville	Gold	Placer
Busk Ivanhoe Tunnel	Leadville	Boyles Brothers Drilling Co., 1321 S. Main St., Salt Lake City, Utah		Water Tunnel
Climax Mines	Climax	American Metals Climax, Inc., Climax	Molybdenum	Mine
Climax Mills	Climax	American Metals Climax, Inc., Climax	Molybdenum	Mill
Continental Chief	Iowa Gulch	Robert Benson, Box 954, Leadville	Silver, Lead	Mine
Ceresco Mt. Project	Climax	Boyles Brothers Drilling Co., 1321 S. Main St., Salt Lake City, Utah	Molybdenum	Drilling
Gordon	Twin Lakes	Denzel A. Hatch & Calder, Twin Lakes	Gold, Silver, Lead	Mine
Kris Kringle	Peekaboo Gulch	James Foster, 1154 S. Ogden St., Denver	Exploration	Mine
Ryan, C. & Son	Climax	C. Ryan & Son, Climax		Dam
Twin Lakes Contract	Red Mountain & Lincoln Creek	Long Year Drilling Co., 76 S. St., Minneapolis, Minnesota		Drilling
Vesuvius	Twin Lakes	Louis Kostelic, 201 W. 3d St., Leadville	Gold	Mine

LA PLATA COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Bessie G.	Heffernan Gulch	La Plata Gold Corp., 708 Majestic Bldg., Denver	Gold, Silver	Mine
Eleanora	La Plata Canyon	Crater Lake Mining Co., Durango E. M. Myers, Box 3151, Durango	Gold, Silver, Lead, Copper, Zinc	Mine
Farmer Boy	La Plata Canyon	O. H. Hawkins, 1857 N. 30th St., Kansas City, Kansas	Gold, Silver, Copper	Mine
Muldoon	Muldoon Mountain	Harold E. Knudsen, Durango	Silver	Mine
Neglected	Gains Gulch	Morton & Powell, Santa Fe, New Mexico	Gold, Silver	Mine

Silver State Smelting and Refining Co.	Durango	Lindsay E. Becker, 2200 Crest View Drive, Durango	Gold, Silver, Lead, Copper, Zinc	Smelter
V. C. A. Mill	Durango	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mill

LARIMER COUNTY

Boettcher Quarry & Plant	La Porte	Ideal Cement Co., Box 579, Ft. Collins	Limestone	Quarry
Buckhorn & Lavender	Masonville	Buck Horn Quarries, Masonville	Stone	Quarry
Carter	Masonville	Gus Feher, Estes Park Rt., Loveland	Stone	Quarry
Colorado Stone Berthoud Pink	Carter Lake	Colorado Stone Co., 1635 N. Main St., Longmont	Stone	Quarry
Colorado Stone Quarries, Nos. 3, 6 & 10	Beach Hill	Colorado Stone Co., 1635 N. Main St., Longmont	Stone	Quarry
Colorado Stone Loveland Quarry	Loveland	Colorado Stone Co., 1635 N. Main St., Longmont	Stone	Quarry
Goodwin	Payne Ranch	Ernest W. Munroe, Rt. 2, Box 273, Ft. Collins	Gypsum	Quarry
Hide Above Lode	Storm Mountain	National Beryl & Mining Corp., Box 1348, Estes Park	Beryl	Mine
Jolex	Ft. Collins	Jolex Mica Co., 426 La Porte Ave., Ft. Collins	Mica	Mill
Langston	Poudre Canyon	Archie Langston, Bellvue	Beryl, Mica	Mine
Loveland	Loveland	U. S. Gypsum Co., Estes Rark Route, Loveland	Gypsum	Quarry
Lucky Rosemary	Stove Prairie Junction	Vannorsdel, Colard & Shaw, Star Route, Bellvue	Beryl	Mine
Masonville	Masonville	Gus Feher, Estes Park Route, Loveland	Stone	Quarry
Minerals Concentrator	Loveland	Minerals Concentrates & Chemical Co., Box 185, Loveland	Beryl, Mica	Plant
Mt. Olympus No. 2	Poudre Canyon	Mt. Olympus Mining Co., 1636 Garfield St., Loveland	Mica, Beryl, Spar	Mine
Munroe	Payne Ranch	Ernest W. Munroe, Rt. 2, Box 273, Ft. Collins	Gypsum	Plant
New Hope No. 20	Storm Mountain	National Beryl & Mining Corp., Box 1348 Estes Park	Beryl	Mine
Ohline	Beach Hill	Pfiefer Stone Cutting Co., Lyons Wild's Stone Quarries, Estes Park Rt., Loveland	Stone	Quarry
Ord	Beach Hill	Ralph Ord, Box 947, Lyons	Stone	Quarry
Poudre Canon	Loveland	Mt. Olympus Mining Co., 1636 Garfield St., Loveland	Mica, Spar, Beryl	Mill
Rex	Owl Canyon	Frank H. Norberg Co., 703 Guaranty Trust Bldg., Denver	Limestone	Quarry
Sprague	Carter Lake	Berthoud Pink Stone Co., Rt. 2, Box 99A, Berthoud	Stone	Quarry

LARIMER COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Sterling Sand & Gravel	North Taft Hill Road	Sterling Sand & Gravel Co., Box 759, Ft. Collins	Sand, Gravel	Plant
Weaver	Masonville	Weaver Stone Co., 759 S. York St., Denver	Stone	Quarry
Wild North	Masonville	Sterling Contracting Co., Box 124, Lyons	Stone	Quarry

LAS ANIMAS COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Santa Fe	Starkville	Scott Mining Co., Starkville	Clay	Mine

MESA COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Arrowhead No. 2	Calamity Mesa	Tom Dausel, Box 1901, Grand Junction	Uranium, Vanadium	Mine
Arrowhead No. 5	Calamity Mesa	Norman Wellman, Box 1901, Grand Junction	Uranium, Vanadium	Mine
Arrowhead No. 20	Calamity Mesa	Sterry Brothers, Rt. 4, Grand Junction	Uranium, Vanadium	Mine
Arrowhead No. 21	Calamity Mesa	Norman Wellman, Box 1901, Grand Junction	Uranium, Vanadium	Mine
Black Diamond	Outlaw Mesa	Rex Sterry, Rt. 5, Grand Junction	Uranium, Vanadium	Mine
Black Mama	Tenderfoot Mesa	Robert London & Hugo Johnson, Box 275, Naturita Ora Estes, Grand Junction	Uranium, Vanadium	Mine
Black Streak	Blue Mesa	Harold Sargent, Box 1562, Grand Junction	Uranium, Vanadium	Mine
Blue Ribbon No. 2	Calamity Mesa	Calvin Ficklin, 301½ Main, Montrose	Uranium, Vanadium	Mine
Calamity No. 1	Calamity Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Calamity No. 10	Calamity Mesa	Ben Zimmerman, 2940½ F Road, Grand Junction	Uranium, Vanadium	Mine
Calamity No. 26	Calamity Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Calco	Calamity Mesa	Manuel & Woodrow Pettyjohn, Box 95, Clifton	Uranium, Vanadium	Mine
Cedar Point	Cedar Point	Marcy-Shenandoah Co., Durango	Uranium, Vanadium	Mine
Century Tunnel	Beaver Mesa	Argo Mining Co., Box 1698, Grand Junction	Uranium, Vanadium	Mine
Cherokee	Beaver Mesa	Beaver Mesa Uranium Co., 1129 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine
Climax Uranium Mill	Grand Junction	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mill
Copper Queen	Uniweep Canyon	E. W. Jones, Rt. 1, & Clifton & Long, 318 Chepita St., Grand Junction	Gold, Silver, Lead, Copper	Mine
Copper Rivet	Sinbad Valley	Lyle Camels, Redvale	Gold, Copper	Mine
Cottonwood	Calamity Mesa	Lee Reed, Box 298, Naturita	Uranium, Vanadium	Mine
Crows Nest	Outlaw Mesa	Bill Holder, No. 12 Trail Ends Trailer Ct., Grand Junction	Uranium, Vanadium	Mine
Depression No. 6	Tenderfoot Mesa	Hays Wilson, Box 606, Nucla	Uranium, Vanadium	Mine
Economy No. 1 & 2	Outlaw Mesa	H. A. Sargent, Box 1562, Grand Junction	Uranium, Vanadium	Mine
Elizabeth Group	Blue Mesa	George Liverman, 2236 Orchard, Grand Junction	Uranium, Vanadium	Mine

Government No. 1	Outlaw Mesa	E. E. Lewis, Inc., Box 1481, Grand Junction	Uranium, Vanadium	Mine
Government No. 1-A	Outlaw Mesa	H. L. Arbogast, Rt. 4, Grand Junction	Uranium, Vanadium	Mine
Government No. 2	Outlaw Mesa	Sterry Brothers, Rt. 5, Grand Junction	Uranium, Vanadium	Mine
Government No. 3	Outlaw Mesa	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
Government No. 4	Outlaw Mesa	Floyd Smith, 119 White Ave., Grand Junction	Uranium, Vanadium	Mine
Gypsum Group	Dolores Canyon	K. L. Etter, 1637 Gunnison Blvd., Grand Junction	Alabaster, Calcium, Sulphate, Barite	Mine
Hanson No. 3	Outlaw Mesa	Ira Adamson, 226-29 Road, Grand Junction	Uranium, Vanadium	Mine
Himes Drilling	Outlaw Mesa	Himes Drilling Co., 2870 Uniweep, Grand Junction	Core Drilling	
Kissner Drilling	Beaver Mesa	Kissner Drilling Co., Box 97, Cedaredge	Core Drilling	
Jody	Blue Mesa	George Liverman, Box 431, Grand Junction	Uranium, Vanadium	Mine
Junction Brick & Supply	Grand Junction	Oscar T. Yarbrough, Box 507, Grand Junction	Brick, Tile	Mine
Karns	Beaver Mesa	Ed Knizley, 274-27 Road, Grand Junction	Uranium, Vanadium	Mine
La Sal	Beaver Mesa	Flanders Mining Co., Box 861, Grand Junction	Uranium, Vanadium	Mine
Liberty Bell	Tenderfoot Mesa	E. E. Lewis, Inc., 823 Winter Ave., Grand Junction Ora Estes, 2807 Uniweep Ave., Grand Junction	Uranium, Vanadium	Mine
Lisbon (Thornton Tunnel)	Beaver Mesa	C. V. Woodard & Co., 2909 U. S. Highway 50, Grand Junction	Uranium, Vanadium	Mine
Lucius Pitkin	Grand Junction	Lucius Pitkin, Inc., Box 1351, Grand Junction	Uranium, Vanadium	Laboratory
Lucky Boy (Point)	Calamity Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Lumsden No. 2	Beaver Mesa	Ralph Hickman, Rt. 5, Grand Junction	Uranium, Vanadium	Mine
Matchless	Calamity Mesa	Clyde A. Allison, Box 355, Grand Junction	Uranium, Vanadium	Mine
Mesa No. 5, Incline No. 2	Outlaw Mesa	Ralph Foster & Sons, 1217 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine
Mesa No. 8	Outlaw Mesa	Ralph Foster & Sons, 1217 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine
Mitchell Drilling	Grand Junction	John Mitchell & Son, 516 Lilac Lane, Grand Junction	Core Drilling	
National Lead Co., Inc.	Grand Junction	National Lead Co., Inc., Box 1849, Grand Junction	Uranium, Vanadium	Plant
New Verde	Calamity Mesa	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
October Adit	John Brown Mesa	Thomas W. Holmes, 1931 N. 9th, Grand Junction	Uranium, Vanadium	Mine
Outlaw No. 8	Outlaw Mesa	Harold Sargent, Box 1562, Grand Junction	Uranium, Vanadium	Mine
Packrat & Hubbard	Beaver Mesa	Beaver Mesa Uranium Co., 1129 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine

MESA COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Protector	Tenderfoot Mesa	Phil Bunker Mining Co., Box 277, Nucla	Uranium, Vanadium	Mine
Rajah No. 28	Beaver Mesa	Model Mining Co., Box 1105, Grand Junction	Uranium, Vanadium	Mine
Raven No. 1	Blue Mesa	Harold Sargent, Box 1562, Grand Junction	Uranium, Vanadium	Mine
Ronnie No. 1	Outlaw Mesa	Cleo Fears, Box 1901, Grand Junction	Uranium, Vanadium	Mine
Rudott No. 3	Beaver Mesa	Steve Miller, Gateway	Uranium, Vanadium	Mine
Ruth Nos. 1, 2, 3, 4, 5, 6	Sinbad Basin	Rex R. Holland, Grand Junction	Copper	Mine
Sprague & Henwood	Grand Junction	Sprague & Henwood, Inc., Box 1446, Grand Junction	Core Drilling	
Thundercloud & Sunspot No. 2	Beaver Mesa	Edward Horn, Box 743, Rifle	Uranium, Vanadium	Mine
Trojan	Outlaw Mesa	Thermel Labrum, Uravan	Uranium, Vanadium	Mine
U. S. Atomic Energy Commission	Grand Junction	U. S. Atomic Energy Commission, Grand Junction	Concentrate Procurement	
Vega Dam	Colbran	C. F. Lytle, Box 260, Colbran Myron Barber, Box 83, Monticello, Utah		Water Tunnel
White, Green & Addison	Outlaw Mesa	White, Green and Addison Associates, Inc., Boston Building, Denver 2	Uranium, Vanadium	Mine
Whitewater Sand & Gravel	Debeque Canyon	Whitewater Sand & Gravel, 940 S. 10th, Grand Junction	Sand, Gravel	Plant
Yellow Jacket No. 15	Calamity Mesa	Ira Adamson, 226-29 Road, Grand Junction	Uranium, Vanadium	Mine

MINERAL COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Amethyst & Commodore	West Willow Creek	Emperius Mining Co., Creede	Silver, Lead, Zinc, Copper	Mine
Emperius Mill	Creede	Emperius Mining Co., Creede	Silver, Lead, Zinc	Mill
Outlet Tunnel	East Willow Creek	Outlet Mining Co., Creede	Silver, Lead, Zinc	Mine
Phoenix	East Willow Creek	Outlet Mining Co., Creede	Gold, Silver, Lead	Mine
Sublet Mill	East Willow Creek	Sublet Mining Co., Creede	Gold, Silver, Lead	Mill

MOFFAT COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Maybell	Maybell	Cannon Diamond Drilling Co., Maybell	Core Drilling	
Maybell Mill	Maybell	Trace Elements Corp., Maybell	Uranium	Mill
Trace Elements Pits	Maybell	Trace Elements Corp., Maybell	Uranium	Mine

MONTEZUMA COUNTY

Red Arrow Group	East Mancos Creek	First National Oil & Minerals, Box 205, Mancos	Gold	Mine
Ripple Placer	Rico	Robert R. Alexander, Box 151, Rico	Gold	Placer
Sexton Brothers Drilling	Rico	Sexton Brothers Drilling Co., Cortez	Core Drilling	

MONTROSE COUNTY

Adak (Wildhorse Colorado)	Dolores Rim	Rex Uranium Co., Farmington, New Mexico	Vanadium	Mine
Air Drilling	Atkinson Mesa	Pat Durand, Box 1553, Cortez	Core Drilling	
All Stars	Spring Creek Mesa	De Var Shumway, 215 Lansdown, Grand Junction	Uranium, Vanadium	Mine
American Eagle	Little Gyp Valley	Wm. W. Lyons, Box 87, Placerville Lowell & Pat Thompson, Box 313, Naturita	Uranium, Vanadium	Mine
Anchor	Dolores Rim	Jerry Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Anna May No. 1	Monogram Mesa	Enis Cole & Jack Bond, Box 26, Uravan	Uranium, Vanadium	Mine
Aucturus	Wild Steer Mesa	Joe Weaver, Box 393, Nucla Albert Fish, Telluride	Uranium, Vanadium	Mine
Aztec	Monogram Mesa	C. N. Athey, Box 156, Naturita	Uranium, Vanadium	Mine
Baby Fawn	Bull Canyon	Vanadium Corp. of America	Uranium, Vanadium	Mine
Baby Ruth	Bull Canyon	Forest V. Binder, Durango	Uranium, Vanadium	Mine
Beaver	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Betty Jean	Martin Mesa	Clifton Carter Mining Co., Box 251, Uravan	Uranium, Vanadium	Mine
Betty Jean No. 2	Martin Mesa	Emerson Williams, Box 335, Nucla	Uranium, Vanadium	Mine
Big Dick	Dolores Rim	Blake, Power & Stocklasa, Uravan	Uranium, Vanadium	Mine
Big Mitt	Dolores Rim	Ronald M. Hutton, Box 231, Uravan	Uranium, Vanadium	Mine
Bismark	Long Park	Dan Kelly, Rt. 4, Grand Junction	Uranium, Vanadium	Mine
Bitter Creek Group	Bitter Creek, Long Park	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Blackburn (Joe Dandy Group)	Monogram Mesa	Ted Stone, Nucla	Uranium, Vanadium	Mine
Black & Gray Point	Wild Steer Mesa	Ray King, Box 353, Uravan	Uranium, Vanadium	Mine
Black Rock	Bull Canyon	Vanadium Corp. of America, Durango Githon Reed, Box 273, Naturita	Uranium, Vanadium	Mine
Blitz	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Blue Bell	Long Park	Blake, Stocklasa & Powers, Uravan	Uranium, Vanadium	Mine
Bob Cat	Long Park	Klingensmith & Neilson, Box 337, Uravan	Uranium, Vanadium	Mine
Bob Tail	Monogram Bench	Enis Cole & Jack Bond, Box 26, Uravan	Uranium, Vanadium	Mine
Bowen No. 1	Atkinson Mesa	Golden Cycle Corp., Box 86, Colorado Springs	Uranium, Vanadium	Mine
Buckshot	Club Mesa	Blake, Power & Stocklasa, Box 91, Uravan	Uranium, Vanadium	Mine
Canon	Martin Mesa	Enis Cole & Jack Bond, Box 26, Uravan	Uranium, Vanadium	Mine

MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Canopus	Wild Steer Mesa	Joe Weaver, Box 383, Nucla	Uranium, Vanadium	Mine
Capella	Monogram Mesa	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Cashin Copper	La Sal Creek	Wendel Paschall, Box 119, Montrose	Uranium, Vanadium	Mine
Cliff Dweller	Dolores Rim	Vanadium Corp. of America, Durango Paul Smith & O. T. Thompson, Box 573, Nucla	Uranium, Vanadium	Mine
Cliff Dwellers Nos. 1, 2, 3, 4	Gyp Valley	Carl Kinsey, Box 223, Montrose	Uranium, Vanadium	Mine
Club	Club Mesa	Lippoth & Wein Drilling Co., Box 502, Grand Junction	Uranium, Vanadium	Mine
Club Group	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Club Sandwich	Dolores Rim	Forest V. Binder, 3500 Main St., Durango Woodrow E. Gripe, Box 225, Naturita	Uranium, Vanadium	Mine
Coloradium	Long Park	Albert Nickerson, 515 S. Junction Ave., Montrose Roy Franklin, Box 911, Uravan	Uranium, Vanadium	Mine
Cripple Creek	Long Park	Dan Kelly, Rt. 4, Grand Junction	Uranium, Vanadium	Mine
Cripple Creek No. 2	Long Park	Albert Nickerson, 515 S. Junction Ave., Montrose	Uranium, Vanadium	Mine
Dan Patch	Long Park	John L. Yeager, Box 931, Uravan	Uranium, Vanadium	Mine
Dan Patch No. 3	Long Park	Jerry Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Deer Shaft	Monogram Mesa	Warren Kuykendall, Box 195, Naturita	Uranium, Vanadium	Mine
Deer Shaft No 2	Monogram Mesa	Stanley Kuykendall, Box 195, Naturita	Uranium, Vanadium	Mine
Diana	Bull Canyon	E. J. Alongo, Box 234, Naturita	Uranium, Vanadium	Mine
Doagy Tunnel	Monogram Mesa	C. N. Athey, Box 156, Naturita	Uranium, Vanadium	Mine
Dolores	Dolores Rim	Blake, Power & Stocklasa, Box 91, Uravan	Uranium, Vanadium	Mine
Donald L	Bull Canyon	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Donna K	Long Park	Ben Brito, Box 626, Delta	Uranium, Vanadium	Mine
Dorothy	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Dorothy Jean No. 1 & Uranus	Monogram Mesa	Carl Tucker, Box 461, Grand Valley	Uranium, Vanadium	Mine
Duchess No. 2, 3	Martin Mesa	A. E. & J. R. Davis, 1160 Belford, Grand Junction	Uranium, Vanadium	Mine
Dusty	Long Park	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Equinox (Oregon)	Dolores Rim	Rex Uranium Corp., Farmington, New Mexico	Uranium, Vanadium	Mine
Eula Belle	Mesa Creek	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Evening Star No. 2	Lion Creek	Frank Peterson & Waulstine McNeeley, Box 41, Moab, Utah	Uranium, Vanadium	Mine
Fawn Springs No. 5, Townsite	Bull Canyon	Joe Cole, Box 274, Naturita	Uranium, Vanadium	Mine
Fawn Springs No. 7, 13	Bull Canyon	Paul D. Smith, Box 391, Nucla	Uranium, Vanadium	Mine
Fawn Springs No. 9, 11	Bull Canyon	Oral Clark & Art Harris, Box 596, Nucla	Uranium, Vanadium	Mine
Fawn Springs No. 10	Bull Canyon	Kenneth Workman, Box 295, Uravan	Uranium, Vanadium	Mine

Fawn Springs No. 12, 21	Bull Canyon	Oral Clark & Art Harris, Box 596, Nucla	Uranium, Vanadium	Mine
Firebird	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Firecracker No. 1, 2	Long Park	Vanadium Corp. of America, Durango		
		Andress Bros., Box 333, Norwood	Uranium, Vanadium	Mine
First National Bank	Long Park	Barnes Bros., Nucla	Uranium, Vanadium	Mine
Fox	Dolores Rim	Delbert Burbridge, Box 187, Nucla	Uranium, Vanadium	Mine
Good Hope (Black Foot Group)	Eagle Basin	Thermel Labrum, Box 294, Uravan	Uranium, Vanadium	Mine
Ground Hog	Long Park	Brickey & Alexander, Box 411, Uravan	Uranium, Vanadium	Mine
Guadalcanal	Long Park	La Verne Ray, Box 256, Uravan	Uranium, Vanadium	Mine
Greagor Group	Bull Canyon	Edward Smith, Box 285, Naturita	Uranium, Vanadium	Mine
Happy Thought	Monogram Mesa	Enis Cole & Jack Bond, Box 36, Uravan	Uranium, Vanadium	Mine
Henry Clay	Long Park	Roy Franklin, Box 911, Uravan	Uranium, Vanadium	Mine
Hidden Basin & T.N.T. No. 3 (Mineral Lease No. 15)	Long Park	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
High Ball Group	Bull Canyon	Glen Greagor, Norwood	Uranium, Vanadium	Mine
Honeymoon, East	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Horsehair No. 1	Bull Canyon	Clifton A. Carter, Box 153, Uravan	Uranium, Vanadium	Mine
Hummer	Monogram Mesa	Lowell Staats, Nucla	Uranium, Vanadium	Mine
J. M. Mine	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Joe	Dolores Rim	Douglas Cleghorn, Box 502, Uravan	Uranium, Vanadium	Mine
Joe Dandy	Monogram Mesa	Ted Stone, Nucla	Uranium, Vanadium	Mine
Joe Jr. & Rambler	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Johnson & Youvan Drilling	Naturita	Johnson & Youvan Drilling Co., Uravan	Core Drilling	
La Salle	Long Park	La Salle Mining Co., Box 217, Grand Junction	Uranium, Vanadium	Mine
Lark Group	Bull Canyon	Clair Albano, Box 592, Nucla	Uranium, Vanadium	Mine
Lippoth & Wein Drilling	Club Mesa	Lippoth & Wein Drilling Co., Box 502, Grand Junction	Drilling	
Little Basin	Uravan	John W. Ricks, Box 207, Uravan	Uranium, Vanadium	Mine
Little Buckhorn	Carpenter Flats	K A O Mining Co., 2679B½ Road, Grand Junction	Uranium, Vanadium	Mine
Little Dick	Dolores Rim	Del Burbridge, Box 187, Nucla	Uranium, Vanadium	Mine
Log Cabin	Bull Canyon	Micro Copper Corp., Marshall Court, Moab, Utah		
		Cecil Crandall, Redvale	Uranium, Vanadium	Mine
Long Park No. 1	Long Park	Wm. R. Pierce, Box 338, Nucla	Uranium, Vanadium	Mine
Long Park No. 2	Long Park	Russell E. Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Long Park No. 3	Long Park	Marion Trone, Box 376, Uravan	Uranium, Vanadium	Mine
Long Park No. 4	Long Park	James F. Galyean, Box 474, Nucla	Uranium, Vanadium	Mine
Long Park No. 6	Long Park	Frank Fedel, Box 473, Uravan	Uranium, Vanadium	Mine
Long Park No. 9	Long Park	Russell Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Long Park No. 10 11	Long Park	O'Bryant & Powell, Box 124, Uravan	Uranium, Vanadium	Mine
Long Park No. 12	Long Park	C. C. Sanders, Nucla	Uranium, Vanadium	Mine
Lower Oversite	Monogram Mesa	Lowell Staats, Nucla	Uranium, Vanadium	Mine
Lucky Blunder	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine

MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Lucky Dog	Dolores Bench	Enis Cole & Jack Bond, Box 36, Uravan	Uranium, Vanadium	Mine
M. L. No. 23	Long Park	Forest Binder, Naturita	Uranium, Vanadium	Mine
MacPherson Drilling	Montrose	MacPherson Drilling Co., 324 N. Townsend, Montrose	Core Drilling	
Maggie C	Bull Canyon	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Margie	Club Mesa	Lippoth & Wein, Box 502, Grand Junction	Uranium, Vanadium	Mine
Mary Ann No. 4, Dorothy Jean No. 2	Wild Steer Mesa	T. S. Wolverton, Box 284, Uravan	Uranium, Vanadium	Mine
Media	Long Park	Dan Kelly, Rt. 2, Grand Junction	Uranium, Vanadium	Mine
Mill No. 1	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Mill No. 2	Club Mesa	Matt & Joe Javernick & Arthur Bourgenson, Box 484, Uravan	Uranium, Vanadium	Mine
Mineral Joe No. 1	Monogram Mesa	Climax Uranium Co., Grand Junction	Uranium, Vanadium	Mine
Mineral Joe No. 2	Monogram Mesa	Fred Richards & Son, Box 384, Nucla	Uranium, Vanadium	Mine
Mineral Joe No. 11	Monogram Mesa	Climax Uranium Co., Grand Junction	Uranium, Vanadium	Mine
Mineral Park Nos. 4, 6 (Triangulation Shaft)	Long Park	O. E. Smart, Box 64, Naturita	Uranium, Vanadium	Mine
Modeen No. 2	Sylvia's Pocket	London & Johnson, Box 275, Naturita Clinton Reid, Box 273, Naturita	Uranium, Vanadium	Mine
Monster	Club Mesa	Omi-Metals, Salida	Uranium, Vanadium	Mine
Moonbeam & Ground Hog South, C. F. C.	Long Park	Albert Harmon, Fruita	Uranium, Vanadium	Mine
Morning	Bull Canyon	Edward Smith, Box 285, Naturita	Uranium, Vanadium	Mine
Mucker	Long Park	Albert Nickerson, 515 S. Junction Ave., Montrose	Uranium, Vanadium	Mine
New Happy	Long Park	R. C. Williams, Uravan	Uranium, Vanadium	Mine
New Vanadate	Long Park	Carl Kinsey, Box 223, Naturita	Uranium, Vanadium	Mine
Nil No. 2	Monogram Mesa	Grant Barnett, Box 305, Dove Creek Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
North Hummer	Monogram Mesa	Lowell Staats, Nucla	Uranium, Vanadium	Mine
Nucla	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Ophir	Dolores Rim	Cecil Bunker, Box 27, Nucla	Uranium, Vanadium	Mine
Oversite	Monogram Mesa	Lowell Staats, Nucla	Uranium, Vanadium	Mine
Paddy No. 4	Bull Canyon	Carlton Bishop Mining Co., Box 282, Naturita	Uranium, Vanadium	Mine
Paradox Nos. 5, 6 & D	Monogram Mesa	W. D. Eckman Mining Co., Box 127, Nucla	Uranium, Vanadium	Mine
Pay Day or Point Empire	Martin Mesa	C. C. P. Mining Co., Uravan Clifton Carter Mining Co., Box 251, Uravan	Uranium, Vanadium	Mine
Peanut Nos. 1, 3	Bull Canyon	A. C. Rinderle, 404 Sherman Drive, Grand Junction	Uranium, Vanadium	Mine
Peanut No. 2	Bull Canyon	Louis P. Gaggini, 2998 F Road, Grand Junction	Uranium, Vanadium	Mine
Phonograph	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Pickett Corral No. 2	Bull Canyon	Lee Elder, Box 32, Uravan	Uranium, Vanadium	Mine

Pluto	Wild Steer Canyon	Jack Bond & Enis Cole, Box 36, Uravan	Uranium, Vanadium	Mine
Princess	Martin Mesa	D. K. & K. M. Andrews, Box 87, Nucla	Uranium, Vanadium	Mine
Production	Long Park	O'Bryant & Powell, Box 124, Uravan	Uranium, Vanadium	Mine
Rambler Point & 715 Drift	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Rattlesnake	Long Park	C & P Mining Co., Nucla Art Thompson, Box 501, Uravan	Uranium, Vanadium	Mine
Raven & Pearl Walker	Club Mesa	Marion Trone, Uravan Reid Bros., Box 273, Naturita	Uranium, Vanadium	Mine
Redbird (Long Pine Group)	Carpenter Ridge	Cecil Bunker, Nucla	Uranium, Vanadium	Mine
Red Flag	Bull Canyon	Boyd Castor, Nucla	Uranium, Vanadium	Mine
Redrock No. 2	Martin Mesa	Redrock Mining Co., Box 233, Naturita	Uranium, Vanadium	Mine
Redrock No. 5	Martin Mesa	Ernest Berry, Box 237, Naturita	Uranium, Vanadium	Mine
Red Sox	Dolores Rim	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Regis	Wild Steer Mesa	Joe Weaver, Box 393, Nucla	Uranium, Vanadium	Mine
Renegade	Mesa Creek	Rex Uranium Co., Farmington, New Mexico	Uranium, Vanadium	Mine
Republican	Long Park	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Rimrock	Wedding Bell	J. P. Southerland, Naturita	Uranium, Vanadium	Mine
Rimrock No. 2	Wedding Bell	Ed Johansen, Box 117, Nucla	Uranium, Vanadium	Mine
Rimrock No. 5	Wedding Bell	Clyde Jones, Box 183, Naturita	Uranium, Vanadium	Mine
Rimrock Blues Nos. 2, 3, 4, 5	Bull Canyon	Adolphus Moore, Box H, Naturita Harold J. Price, Box 74, Nucla	Uranium, Vanadium	Mine
Rimrock Blues No. 6	Bull Canyon	Robert Sievers, Box 843, Uravan	Uranium, Vanadium	Mine
Rock Raven	Spring Creek Mesa	John Ricks, Uravan	Uranium, Vanadium	Mine
St. Patrick	Long Park	Neilson & Klingensmith, Box 875, Uravan	Uranium, Vanadium	Mine
Sam	Bull Canyon	Clifton A. Carter, Box 153, Uravan	Uranium, Vanadium	Mine
Sandy	Dolores Rim	Douglas Cleghorn, Box 502, Uravan	Uranium, Vanadium	Mine
School Marm	Bull Canyon	Woodrow E. Gripe, Box 225, Naturita	Uranium, Vanadium	Mine
September Morn (Incline)	Bull Canyon	Del Leatherman, Nucla	Uranium, Vanadium	Mine
Sesmo	Long Park	Art Thompson, Box 501, Uravan	Uranium, Vanadium	Mine
Shamrock Group	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Sirius	Wild Steer Mesa	Joe Weaver, Box 393, Nucla	Uranium, Vanadium	Mine
Sphinx, Florence, Nellie	Long Park	Neilson & Klingensmith, Box 875, Uravan	Uranium, Vanadium	Mine
Star No. 3 North	Spring Creek Mesa	Eugene M. Barnes, Box 235, Uravan	Uranium, Vanadium	Mine
Starlight No. 7	Bull Canyon	Elder Trone, Box 484, Nucla Lee Reed Naturita Wm. Emmons, Box 161, Naturita	Uranium, Vanadium	Mine
Sunbeam	Long Park	London & Johnson, Box 275, Naturita Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Sunflower	Long Park	Clarence Neilson, Box 875, Uravan	Uranium, Vanadium	Mine

MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Sunrise No. 3	Bull Canyon	Boyd Castor, Nucla	Uranium, Vanadium	Mine
Sunrise No. 4	Bull Canyon	Ernest Berry, Naturita	Uranium, Vanadium	Mine
Teapot Dome	Bull Canyon	Joe Cole, Box 274, Naturita	Uranium, Vanadium	Mine
Three Jacks	Paradox	Hess Drilling Co., Paradox	Uranium, Vanadium	Mine
Thunderbolt	Monogram Mesa	Walter Burnett, Box 386, Nucla	Uranium, Vanadium	Mine
Townhouse	Dolores Rim	Ronald M. Hutton, Box 231, Uravan	Uranium, Vanadium	Mine
Tramp	Club Mesa	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Tripod Group	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Uranium Girl No. 1, 2	La Sal Creek	Mile High Minerals Exploration Co., 4230 Tennyson St., Denver James Donaldson, 4452 Vrain St., Denver 12	Uranium, Vanadium	Mine
Uravan Plant	Uravan	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Plant
Vaden View	Bull Canyon	D. C. Bunker, Box 263, Nucla	Uranium, Vanadium	Mine
Valley View Group	Carpenter Ridge	Earl Hamrick, c/o O. M. Duckett, 347 Winters Ave., Grand Junction	Uranium, Vanadium	Mine
Vanadate	Long Park	Carl Kinsey, Box 186, Montrose	Uranium, Vanadium	Mine
Vanadium King	Long Park	Lawrence Ross, Placerville	Uranium, Vanadium	Mine
Virgin	Long Park	D. C. Bunker, Box 263, Nucla	Uranium, Vanadium	Mine
Warren	Lion Creek	Polar Mesa Mining Co., Bedrock	Uranium, Vanadium	Mine
Washburn	Long Park	Lark Washburn, Box 850, Uravan	Uranium, Vanadium	Mine
Wedge	Lion Creek	Polar Mesa Mining Co., Bedrock Ray Shumway, Box 312, Moab, Utah	Uranium, Vanadium	Mine
West Opera Box	Monogram Mesa	C. N. Athey, Naturita	Uranium, Vanadium	Mine
Wildcat No. 3	Martin Mesa	Robert Lee Dyer, Uravan Carlton Bishop & Lester Lowry, Naturita	Uranium, Vanadium	Mine
Wildcat No. 8	Martin Mesa	Silver Lane Mining Co., Black Hawk	Uranium, Vanadium	Mine
Worcester	Atkinson Mesa	Worcester Mines, 2512 Mira Vista Road, Grand Junction	Uranium, Vanadium	Mine
Wright	Spring Creek Mesa	John W. Ricks, Box 207, Uravan	Uranium, Vanadium	Mine

OURAY COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
American Nettie	Gold Hill	W. R. Nichols & O. C. Baker, 508 Main, Montrose	Gold, Silver, Lead, Copper, Uranium, Zinc	Mine
Bachelor	Dexter Creek	Bay City Mining & Milling Co., Inc., 1550 Clarkson St., Denver	Silver, Lead, Zinc	Mine
Bay City Mining & Milling Co.	Ouray	Bay City Mining & Milling Co., Inc., 1550 Clarkson St., Denver	Gold, Silver, Lead, Copper, Zinc	Mill
Camp Bird	Ouray	Camp Bird Colorado, Inc., First Nat'l Bank Bldg., Denver 2	Gold, Silver, Lead, Copper, Zinc	Mine
Edna Nos. 1-6	Ironton Park	St. Germain Foundation, Ouray	Silver, Lead	Mine
Frank Hough	Engineer Mtn.	Brown Mining Co., Box 173, Montrose	Gold, Silver, Copper	Mine
Little Balm of Gilead	Ouray	Green Rock Mining Co., Box 371, Aztec, New Mexico	Silver Lead, Zinc, Copper	Mine

Rouville	Red Mtn.	Rouville Mining Corp., Box 388, Silverton Ernest S. Hoffman, Box 388, Silverton	Gold, Silver, Lead, Copper	Mine
Ruby Trust, Francis No. 2, Torpedo Eclipse	Canon Creek	Francis Consolidated Group, Box 204, Ouray	Fluorspar, Gold, Silver, Lead, Copper, Zinc	Mine
Treasury Tunnel	Red Mtn.	Idarado Mining Co., Ouray	Gold. Silver, Lead, Copper, Zinc	Mine

PARK COUNTY

Alma Placer	Alma	Jack Clayton, Fairplay	Gold	Placer
Blue River Gravel	Jefferson	Blue River Constructors, Box 5, Grant	Sand, Gravel	Plant
Blue Jay	Badger Flats	U. S. Beryllium Co., Bondurant Bldg., Pueblo	Beryl	Mine
Boomer	Badger Flats	U. S. Beryllium Co., Bondurant Bldg., Pueblo	Beryl	Mine
Harold D. Roberts	Grant, East Portal	Blue River Constructors, Box 5, Grant		Water Tunnel
Hilltop	Fairplay	Leadville Lead Corp., Box 92, Fairplay	Silver, Lead	Mine
Hoosier Pass	Hoosier Pass	Mazzoco Const. Co., Box 1298, Colorado Springs		Water Tunnel
J. S.	Badger Flats	C Y W Y D Mining Co., Lake George	Beryl	Mine
Tennessee No. 1	Badger Flats	John B. Knoy & Associates, 1502 N. Custer, Colorado Springs	Beryl	Mine
White Rock	Badger Flats	Mike Daniels, Box 117, Lake George	Beryl	Mine

PUEBLO COUNTY

Chamblin	Pueblo	Standard Fire Brick Co., 24th & Albany, Pueblo	Clay	Mine
Kathryn No. 2 Incline	Turkey Creek	Cliff & Creek Mining Co., 447 Independence Bldg., Colorado Springs	Uranium	Mine
Miller	Rock Creek	Harbison-Walker Refractories Co., Box 150, Canon City	Clay	Mine
Rock Creek	Rock Creek	Standard Fire Brick Co., 24th & Albany, Pueblo	Clay	Mine

RIO BLANCO COUNTY

Black Diamond No. 1	Rangely	Field Service, Inc., 343 S. State, Salt Lake City, Utah	Gilsonite	Mine
Butterfly Pit	Uranium Peak	Lyle Francis, Box 577, Meeker	Uranium	Mine
Coal Creek No. 1	Meeker	John & Robert Dade, Meeker	Uranium	Mine
Shylo No. 1	Meeker	Robert Dade, Meeker	Uranium	Mine

ROUTT COUNTY

McCoy Cinder Pit	McCoy	McCoy Aggregate Co., Steamboat Springs	Volcanic Scoria	Quarry

SAGUACHE COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Antoro	Bonanza	American Industrial Leasing Co., Superior Mines Division, Box 127, Salida	Silver, Lead, Zinc	Mine
Bonanza Mill	Bonanza	Flynn Connor, Box 517, Saguache	Silver, Copper, Gold	Mill
Bonito	Marshall Pass	D & J Uranium & Exploration Co., Inc., 219 Bondurant Bldg., Pueblo	Uranium	Mine
Copperhead Smelter	Mineral Hot Springs	Gendev Mining Co., Saguache	Copper	Smelter
E-D	Bonanza	Levin L. Charles & T. U. Wolfe, Bonanza Rt., Villa Grove	Gold, Silver	Mine
East Mine	Cochetopa Creek	Gunnison Mining Co.. Box 539, Gunnison	Uranium	Mine
Jenny	Bonanza	L. G. Johnston, Bonanza Rt., Villa Grove	Silver, Lead, Zinc, Copper	Mine
Lookout Nos. 33, 34	Harry Creek	Gibraltar Minerals Co., Box 114, Gunnison	Uranium	Mine
Marine Lode	Rawley Gulch	Tom Amer, Villa Grove	Gold, Silver, Lead, Zinc	Mine
Monon	Meyers Creek	Monon Mining Co., Creede	Silver, Lead, Zinc	Mine
National Mineral Mill	Bonanza	Superior Mines Division, Box 127, Salida	Zinc, Lead	Mill
Oregon	Bonanza	Solar Mining Co., Box 249, Salida	Manganese	Mine
Pershing	Manganese Gulch	L & M Mining Co., Box 122, Villa Grove	Manganese	Mine
Pershing Mill	Villa Grove	L & M Mining Co., Box 122, Villa Grove James F. McRee Mining & Milling Co., Box 122, Villa Grove	Manganese	Mill
Pitch Tunnel	Indian Creek	Pinnacle Exploration, Inc., Box 144, Gunnison	Uranium	Mine
Rawley No. 2	Bonanza	Wm. J. Costello, Villa Grove	Gold, Lead	Mine
Rawley No. 12	Bonanza	American Industrial Leasing Co., Superior Mines Division, Box 127, Salida	Silver, Lead, Zinc	Mine
T No. 2	Cochetopa	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Villa Grove Turquoise Lode	Villa Grove	M. C. Winfield, Box 171, Villa Grove Grove	Turquoise	Quarry
West Thornburg (Los Ochos)	Cochetopa	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Wheel of Fortune	Bonanza	Wm. Larson, 546 E. 3d, Salida	Silver, Lead, Zinc	Mine

SAN JUAN COUNTY

American Tunnel	Gladstone	Standard Uranium Co., Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Blackhawk	Cement Creek	Searle & Smith, Box 541, Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Burbank	Clear Lake	Barney Blackmore, Box 344, Silverton	Gold, Silver	Mine
Columbus (2d Level)	Animas Forks	Jack Dick, Silverton	Gold, Silver, Lead	Mine
Esmeralda	Minnie Gulch	Esmeralda Mining Co., Box 612, Grand Junction	Gold, Silver	Mine

Gold King	Bonita Creek	Gold King Development Co., Box 476, Silverton	Gold, Silver, Lead, Zinc	Mine
Graysill Group	Hermosa Creek	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Kansas City	Georgia Gulch	Graham, Olsen & Martz, Box 13, Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Lark	Silverton	P. H. Ruhter, Idaho Springs	Gold, Silver, Lead, Copper, Zinc	Mine
Little Dora (Dora)	Mineral Creek	Tri-State Petroleum & Minerals Co., 818 17th St., Denver	Gold, Silver, Lead, Copper	Mine
Richardson Group (Brooklyn)	Red Mtn.	Richardson Mines, Box 201, Ouray	Gold	Mine
Shenandoah Limited (Mayflower)	Silverton	Shenandoah Limited, Box 247, Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Silent Friend	Animas Forks	Oddie Cross, Box 327, Silverton	Gold, Silver, Lead	Mine
Silver Cloud	Mill Creek	Tom Gilliland, Box 492, Silverton	Silver, Lead, Copper, Zinc	Mine

SAN MIGUEL COUNTY

April No. 1	Slick Rock	Lyle Francis, Box 204, Moab, Utah	Uranium, Vanadium	Mine
Andrus	Ingram Basin	East Ridge Co., 633 So. Shatto Place, Los Angeles, California	Lead, Zinc	Mine
Ava Jay	Slick Rock	Dale Dillon, Box 1478, Cortez	Uranium, Vanadium	Mine
Bachelor Shaft	Bachelor Draw	Bachelor Mines, Dove Creek	Uranium, Vanadium	Mine
Badger	Old Ophir	Silver Bell Mines, Ophir	Gold, Silver, Lead, Zinc	Mine
Bean No. 3	Bean Patch	Dulaney Mining Co., 1st Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Bean Patch	Bean Patch	Burwell Mining Co., Egnar	Uranium, Vanadium	Mine
Bell Claims Group	Gyp Valley	Alva Hunt, Box 87, Montrose	Uranium, Vanadium	Mine
Blackhawk Tunnel	Alta Basin	Don Risser, 1st Nat'l Bank Bldg., Peoria, Illinois	Gold, Silver, Lead, Zinc	Mine
Black Jack	Slick Rock	Tom Lynn, Egnar	Uranium, Vanadium	Mine
Blue Moon	Wedding Bell	Goforth & Davis, Box 91, Naturita	Uranium, Vanadium	Mine
Boyles Brothers Drilling	Deremo Shaft	Boyles Brothers Drilling Co., 1321 South Main St., Salt Lake City, Utah	Core Drilling	
Brighton & Ike 5	Slick Rock	Dulaney Mining Co., 312 1st Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Buckhorn	Slick Rock	Richard L. Duncan, Box 92, Dove Creek	Uranium, Vanadium	Mine
Bull Moose	Bishop Canyon	Stanley Thompson, Egnar	Uranium, Vanadium	Mine
Bull Snake Group, Space Ship	Horseshoe Bend	Uranium Producers, Inc., 405 Burns Vault Bldg., Denver	Uranium, Vanadium	Mine
Burro Nos. 3, 5, 7	Slick Rock	Harold Foss, Slick Rock	Uranium, Vanadium	Mine
Carbonero	Old Ophir	Silver Bell Mines, Ophir	Lead, Zinc	Mine
Carnation (St. Jude)	Gypsum Valley	Lowell Staats, Box 334, Nucla	Uranium, Vanadium	Mine
Chilli No. 5	Ham Bench	Virgil Nidiffer, Rt. 1, Grand Junction	Uranium, Vanadium	Mine
Cone No. 6	Slick Rock	Charles Davis, Slick Rock	Uranium, Vanadium	Mine
Cougar Group	Slick Rock	Earl Godfrey, Slick Rock	Uranium, Vanadium	Mine
Deremo	Egnar Plains	Gordon B. Irvine, Egnar	Uranium, Vanadium	Mine
Falcon	Slick Rock	Joe Gomez, Box 23, Egnar	Uranium, Vanadium	Mine

SAN MIGUEL COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Faultless	Little Gyp Valley	Carl Kinsey, Box 223, Boulder	Uranium, Vanadium	Mine
Firefly	Slick Rock	Joe Gomez, Box 23, Egnar	Uranium, Vanadium	Mine
Frankie & No. 1	Slick Rock	Earl Godfrey, Slick Rock	Uranium, Vanadium	Mine
Granger Placer	Beaver Creek	Albert Granger, Norwood	Uranium, Vanadium	Mine
Gold King	Gold Basin	Eagan Norlander & H. Timmerman, Ouray & Telluride Gold King Mines, Telluride	Uranium, Vanadium	Mine
Groundhog	Wedding Bell	Gardner & Bishop, Box 202, Naturita	Uranium, Vanadium	Mine
Groundhog Dump	Wedding Bell	Paul D. Rice, Box 65, Naturita	Uranium, Vanadium	Mine
Hangover	Slick Rock	London & Johnson, Box 275, Naturita Arvane Burwell, Egnar	Uranium, Vanadium	Mine
Hawk No. 1	Slick Rock	Earl Godfrey, Slick Rock	Uranium, Vanadium	Mine
Iron Springs Placer	Old Ophir	Boyd Robinson, 1654 Canon Ave., Grand Junction	Bog Iron	Mine
Jack Knife No. 2	Wedding Bell	Cressler & Bigler, Naturita	Uranium, Vanadium	Mine
King No. 2	Slick Rock	Gerald Randolph, Box 42, Egnar	Uranium, Vanadium	Mine
King No. 4	Slick Rock	E. E. Lewis, Inc., Box 1981, Grand Junction	Uranium, Vanadium	Mine
Lane Franklin Drilling	Egnar	Lane Franklin Drilling Co., Box 546, Ozona, Texas	Drilling	
Latricia	Slick Rock	Arvane Burwell, Egnar	Uranium, Vanadium	Mine
Little Jimmie	Telluride	Little Jimmie Mining & Leasing Co., Telluride	Gold, Silver	Mine
Mainstreet	Wedding Bell	Jim Thomas, Box 164, Green River, Utah K A. O. Mining Co., 2679 B½ Road, Grand Junction	Uranium, Vanadium	Mine
Marne	Spud Patch	O. W. Woodward, 2061 S. Broadway, Grand Junction	Uranium, Vanadium	Mine
Mary Jane Group	Hamm Canyon	Workman Bros., Box 296, Uravan Cliff Recem. Cortez	Uranium, Vanadium	Mine
May No. 2	Slick Rock	E. E. Lewis, Box 1981, Grand Junction	Uranium, Vanadium	Mine
Mexico Group & Red Horse	Hamm Rim	E. J. Johannsen, Box 117, Nucla	Uranium, Vanadium	Mine
Mickey	Slick Rock	Baird & Snyder Mining Co., Box 231, Dove Creek	Uranium, Vanadium	Mine
North Slope	Mt. Hayden	J. E. Shook & Herbert Williams, Olathe Cottage Home Hotel, Olathe	Gold, Silver, Lead, Zinc, Copper	Mine
Northern No. 6	Slick Rock	Samuel Johnson, Slick Rock	Uranium, Vanadium	Mine
Nuget Nos. 1, 2, 3 (Horseshoe Nos. 1, 2, 3, 4, 5)	Placerville	Jack Milling, Egnar B. C. Morain, Placerville	Uranium, Vanadium	Mine
Ortmayer Group	Slick Rock	E. E. Lewis, Box 1981, Grand Junction	Uranium, Vanadium	Mine
Pandora	Telluride	Idarado Mining Co., Ouray	Gold, Silver, Lead, Copper, Zinc	Mine
Pandora Mill	Telluride	Idarado Mining Co., Ouray	Gold, Silver, Lead, Copper, Zinc	Mill

Parrot	Mule Shoe Bend	Emmons Mining Co., Box 161, Naturita	Uranium, Vanadium	Mine
Penju Group	Gyp Valley	James Weir, Yellow Jacket	Uranium, Vanadium	Mine
Pitch Fork	Gyp Valley	Hollern & Hollern Mining Co., Dove Creek	Uranium, Vanadium	Mine
Pond	Gyp Valley	Hardin & Plantz, Inc., Redvale	Uranium, Vanadium	Mine
Radium Group	Slick Rock	Dulaney Mining Co., First Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Red Horse	Hamm Bench	E. J. Johannsen, Nucla	Uranium, Vanadium	Mine
Red Rock Group	Mule Shoe Mtn.	James Brooks, Naturita	Uranium, Vanadium	Mine
Roy Lee	Mule Shoe Mtn.	Clinton Snyder, Paradox	Uranium, Vanadium	Mine
S. B. Group	Dolores Rim	Foy & Davis Mining Co., Box 412, Dove Creek	Uranium, Vanadium	Mine
Sage No. 11	Bishop Canyon	Uranium Shares, Inc., 1424 N. Hancock, Colorado Springs	Uranium, Vanadium	Mine
St. Jude	Gyp Valley	Shiprock, Ltd., Box 835, Grand Junction	Uranium, Vanadium	Mine
San Bernardo	Matterhorn	Hugh Thomas & Associates, Box 664, Ophir	Gold, Silver, Lead, Zinc	Mine
Shaft No. 5 (Penigal)	Spud Patch	Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
Sharp	Placerville	B. C. Morain, Placerville	Gold	Mine
Sitton	Slick Rock	Sitton & Sitton, Box 208, Dove Creek	Uranium, Vanadium	Mine
Slick Rock Mill	Slick Rock	Union Carbide Nuclear Co., Slick Rock	Uranium, Vanadium	Mill
Slide	Old Ophir	Randy Belisle, Ophir	Gold, Silver, Lead, Zinc	Mine
Strawberry Roan	Slick Rock	T. E. Thompson, Egnar	Uranium, Vanadium	Mine
Summit Group	Slick Rock	Wilbur Tripp, Box 291, Dove Creek	Uranium, Vanadium	Mine
Sunday No. 2	Gyp Valley	Star Mining Co., Box 291, Grand Junction Doyle, Galyean & Johnson, Nucla	Uranium, Vanadium	Mine
Tailholt	Slick Rock	Dick Duncan, Cortez	Uranium, Vanadium	Mine
Tiny (Discovery Cut)	Gyp Valley	Harding & Plantz, Redvale Star Chenoweth, Slick Rock	Uranium, Vanadium	Mine
Vanadium Queen & Civit Cat	McIntyre Canon	George Bittle, Box 94, Moab, Utah Carl Nichlos & Carl Weaver, Box 382, Fruita	Uranium, Vanadium	Mine
Veta Glad	Slick Rock	Howard Noble and Randolph, Ridgeway	Uranium, Vanadium	Mine
Veta Mad	Slick Rock	Earl Hotz, Slick Rock	Uranium, Vanadium	Mine
Vic No. 6	Bishop Canyon	A. R. S. Partners, Box 112, Dove Creek	Uranium, Vanadium	Mine
Wally No. 1	Mule Shoe Bend	Reid Bros., Box 273, Naturita	Uranium, Vanadium	Mine
Warren Placer	Gold King Basin	Charles Benson, Telluride	Gold, Silver, Lead, Zinc	Placer
Windswept	Gyp Valley	Stocks & Dalton, 214 S. Tusher, Moab, Utah	Uranium, Vanadium	Mine
Windy Day Group	Gyp Valley	Alva Hunt, Box 87, Montrose	Uranium, Vanadium	Mine
Yellow Girl	McIntyre Canyon	White, Green & Addison, 311 Boston Bldg., Denver 2	Uranium, Vanadium	Mine

SUMMIT COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Alliance	Gibson Hill	R. C. Moffit, Box 338, Breckenridge Melvin Burger, Breckenridge	Lead, Zinc, Silver	Mine
Baron and B & B	Tiger	O. A. Sutton 407 Insurance Bldg., Wichita, Kansas	Gold	Placer
Big Four	Green Mtn. Dam	Walt Enyart, Breckenridge	Silver, Lead, Zinc	Mine
Cashier	Teller Mtn.	Richard L. Peterson & Bruce Anderson, Box 8, Douglas, Wyo.	Silver, Lead	Mine
Cupel	Ten Mile	R. J. Cobb, 123 Hays Drive, Colorado Springs	Lead, Zinc	Mine
Fannie Placer	Breckenridge	Aura Lee Engineering Co., Box 583, Breckenridge	Gold	Placer
Gagen Tunnel	Kokomo	Gold Hill Venture, Box 482, Golden Barksdale & Dorian, 917-15th St., Golden	Gold, Silver, Lead, Zinc	Mine
Harold D. Roberts Tunnel	Dillon	Blue River Constructors, Dillon		Water Tunnel
Kokomo Annex	Kokomo	Boyles Brothers Drilling Co., 1321 S. Main St., Salt Lake City, Utah	Core Drilling	
McCullough Tunnel	McCullough Gulch	Brown Construction Co., 5700 N. Broadway, Denver 16		Water Tunnel
Minnie	Breckenridge	Griffin Machinery & Mfg. Co., 728 Myrtle St., Canon City	Gold, Silver, Lead, Zinc	Plant
Montezuma Shaft	Montezuma	Blue River Constructors, Dillon		Water Tunnel
New York	Breckenridge	Knight Mining Corp., 2423 Grove, Denver 11	Gold, Silver, Lead, Zinc	Mine
Shoe Basin	Shoe Basin	Montezuma Mining & Oil Co., Inc., Denver	Silver, Lead Zinc	Mine

TELLER COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Ajax Mine	Battle Mtn.	Golden Cycle Corp., Box 87, Victor	Gold	Mine
Alpen Meadow Bog	Gillette	Alpen Meadows, Inc., Box 1074, Colorado Springs	Peat	Peat Bog
Black Cloud	Divide	Carl Quist, Lake George	Quartz	Quarry
Carlton Mill	Victor	Golden Cycle Corp., Box 47, Victor	Gold	Mill
Cresson	Cripple Creek	Cresson Consolidated Gold Mining Co., Box 127, Cripple Creek	Gold	Mine
Deadwood	Bull Hill	Deadwood Leasing Co., Box 156, Cripple Creek	Gold	Mine
Grace Greenwood	Gold Hill	Richard L. Peterson & Bruce Anderson, Box 8, Douglas, Wyo.	Gold	Mine
Happy Year (Scott Shaft)	Cripple Creek	Three B Mining Co., Box 73, Victor	Gold	Mine
High Park	Cripple Creek	Stewart Drilling Co., Box 61, Canon City	Uranium	Mine
International	Gold Hill	Doepke Mining Co., 2431 N. Nevada Ave., Colorado Springs	Gold	Mine
Little May	Beacon Hill	John Robush & Co., Cripple Creek	Gold	Mine
Mollie Kathleen	Tenderfoot Hill	Black Diamond Mining Co., Cripple Creek	Gold, Tourist	Mine
Pikes Peak	Teller	Pikes Peak Granite Co., A. H. Harre, dba, Box 2323, Colorado Springs	Granite	Quarry

HIGHWAYS & PROJECTS

County	Location	Operators Name & Address	Project
Mesa	Four Corners	Wallace Beard, 2041 N. 8th, Grand Junction	Construction
Grand		Ames Construction Co., 1647 Exchange Bldg., Oklahoma City, Oklahoma	Highway
San Miguel		Braiser Brothers Construction Co., Norwood	Road Work, Drilling
Clear Creek, Delta		Colorado Constructors, 725 W. 39th Ave., Denver 5	Pioneer Bore-Tunnel
Mesa		Corn Construction Co., 2868 Highway 20, Box 1501, Grand Junction	Construction
Gunnison		C. Murl Eilebrecht, Gunnison	Highway
Dolores	Four Corners Area	Fritz & Erickson, Dove Creek	Road Work, Drilling
Saguache	Cochetopa Pass U. S. Highway 285	Gardner Construction Co., Glenwood Springs	Highway
Archuleta, Montrose	Between Nucla & Naturita Between Pine & Piedra	Graham Construction Co., 1509 E. 17th, Pueblo	Highway
Montezuma, San Miguel	Mesa Verde Park, Slick Rock, Placerville	Harrison Construction Co., 1566 S. Bannock St., Denver	Highway
Mesa, Gunnison	S. W. of Gateway, from Cabella toward Lake City	Herren & Strong, Platteville	Highway
Chaffee	Salida	L. J. Hesser, Box 568, Salida	Highway
Delta	Grand Mesa	Hunt Construction Co., Steamboat Springs	Highway
Mesa	Somerset	Bud King Construction Co., Missoula, Montana	Highway
Boulder, Clear Creek, Dolores, Jefferson	Kittredge to Evergreen Floyd Hill Interchange Between Dove Creek & Cahone, Peaceful Valley	H. E. Lowdermilk, 1950 W. Dartmouth, Englewood	Highway
Montrose		C. E. Mills, Rt. 2, Box 142, Montrose	Highway
Archuleta	Pagosa Springs, West	Northwestern Engineering Co., 6001 Colorado Blvd., Denver	Highway
Fremont, Gunnison, Montrose	West of Canon City Gunnison, Montrose	Pioneer Construction Co., Box 21, Pueblo	Highway
Mesa, Mineral	Debeque Canyon, East of Creede, South of Creede	E. J. Rippey & Sons, New Castle	Highway
Moffat	South of Craig	Schmidt Construction Co., 8150 W. 49th, Arvada	Highway
Montrose	South of Crawford	Siegrist Construction Co., 7000 York St., Denver 29	Highway
San Miguel, Summit	Green Mountain Dam, Between Slick Rock and Dove Creek	Smith & Lucas Construction Co., Box 157, Colorado Springs	Highway
Grand County	Parshall	J. A. Tobin Construction Co.. 3701 Rainbow Blvd., Kansas City, Kansas	Highway
Delta	Cedaredge	Walker Brothers Contractors, Box 15, Franktown	Highway
Saguache	Villa Grove	White Water Sand & Gravel Co., Box 1751, Grand Junction	Highway